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VOLUME 6

FIRST SESSION OF THE FOURTEENTH PARLIAMENT

OF THE

DOMINION OF CANADA

SESSION 1922

VOLUME LVIII

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SESSIONAL PAPERS

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PARLIAMENT OF CANADA

FIRST SESSION, FOURTEENTH PARLIAMENT, 1922

A

Agriculture Dept.—Annual Report, 1920-21.. 15
Agricultural Instruction Act—Annual Report 1920-21.. .. .. 15a
Air Board—Annual Report 1921.. 141
Air Force—Amendments to regulations.. 69
Annuities Act—Transfer of administration.. .. .. 44b
Animals, health of—Compensation paid 117
Armaments, Limitation of—Report of Washington Conference, 1921, and Treaties.. 47
Armouries in Canada—Data.. 144
Army Service Corps—Data.. 189
Auditing of public accounts—Expenditures 214
Auditor General—Annual Report 1920-21.. 1

B

Bankruptcy Act—Trustees District of Montreal.. 121
Barristers, Supreme Court of N.S.—Payments to.. .. ..175, 175 a-b-c
Binder twine—Consumption in Canada, 1921.. 164
Board of Hearing—Appeals to 155
Bonds of railways guaranteed by provinces.. 163
Bonds and securities registered—Statement.. 72
Borden, Sir Robert—Appointment to Limitation of Armaments Conference.. .. 47a
Buildings rented in Calgary for Government offices.. 134
Buildings rented in Ottawa for Government Offices.. 103

C

Cabinet Ministers' trips to Europe—Cost, etc.. 169
Caisse, J. J.—Employment in Montreal Post Office.. 114
Canadian Expeditionary Force—Musical instruments 112th battalion.. 92
Canadian Wheat Board—Memorandum re 76
" " " Legal opinion as to constitutionality.. .. .. 76a
Canals of Canada—Data.. 161
Canal statistics, 1921.. .. .. 20a
Canadian Government Merchant Marine—Annual Report 1921.. 200
Canadian National Railways—Annual Report, 1921.. 199
Canadian National Railways—Passenger traffic, vicinity Moncton.. 133
Canadian Northern bonds guaranteed by B.C.—Assumption by Dominion.. 203
Caraquet and Gulf Shore Railway Co.—Purchase of.. .. ..159, 159a
Cattle embargo—Activities of Hon. M. Doherty.. 128
Chief Architect's Branch, Dept. Public Works—Classification.. 118
Civil Service:
Appointments in departments, 1911-22—Number.. 219
Appointments, permanent, April 1, 1920, to January 6, 1922.. 139
Bonus—Amounts paid to April 1, 1921 187
" Order in Council April 21, 1921 112
Civil Service Act, 1918—Positions excluded under Sec 38b.. 102
Civil Service Commission—Annual Report, 1921.. 32
Civil Servants—Number on Jan. 1, 1912, and Jan. 1, 1922; amount salaries.. 204
Civil Servants receiving $800 or $960 or less yearly.. 174
Civil Service Insurance Act—Statement for 1921.. 58
Superannuation and Retiring Allowances, 1921.. 57
Coal importations from U.S. by Dominion Government, 1918-21.. 116
Coal importations from U.S. 1896-1921.. 116a
Cold storage warehouses—extension of subsidies.. 192
Country elevators—Rules and regulations 45
Covenant, League of Nations—Amendments to.. 131
Criminal Statistics, year ended Sept. 30, 1921.. .. .. 10d
Customs and Excise—Annual Report, 1920-21.. 11
Customs and Excise Dept., Montreal—Employees.. 165
Customs collections, Parry Sound, Ont... 135

D

DeBeaux, Robert—Internment of.. 197
Destructive Insect and Pest Act—Regulations under.. 94
Doherty, Rt. Hon. C. J.—Amounts paid to.. 100
Dominion Lands Act—Orders in Council 78
" " Survey Act—Orders in Council.. 82
Dry docks at Vancouver, etc.—Data.. .. 110

E

Eastern LaHave Transportation Company, Limited.. 132
Editorial Committee—Annual Report 1921 75
Elections, By, 1921—Report.. .. .. .. 13a
Election, General, 1921—Report.. 13
Election officers—Tariffs of fees.. 68
Electoral Officer, Chief—Report.. 66
Estimates:—
Main, 1922-23.. 3
Supplementary, 1922-23.. 4
" , further, 1921-22... .. 5
Exchequer Court—Rules and Orders.. .. 71
Experimental Farms—Report of Director, 1920-21.. 93
External Affairs—Annual Report 1920-21 34
Extra-territorality rights of the Dominion 127

F

Farms, greater production, Blackfoot Indian Reserve.. 154
Fort Edward, Windsor, N.S.—Lease of.. 95
Forest Reserves and Parks Act—Orders in Council.. 79
Fisheries, Dept. of—Establishment as separate department.. .. ..99, 99a
Fisheries of B.C.—Cost of operation, etc. 180
" " " Transfer of control.. 180a
Fisheries of Quebec—Control of.. ..46, 46a
" " " Petition of A. Wick and others.. 122
Fisheries Protection Service—Transfer of jurisdiction.. .. .. 44c
Fisheries statistics, 1920.. .. .. 17a

G

Genoa Conference—Documents relating to 105, 105a
Geographic Board of Canada—17th Report.. .. .. 25b
Governor-General's Warrants—Statement 52
Grand Trunk Railway Company—$25,000,000 loan, 1921.. 113
Grand Trunk Railway strike, 1910—Seniority rights of employees.. 172

H

Harbours of St. John, etc.—Expenditure on.. 111
Harbour improvements at Quebec, etc.—Expenditures on.. 97
Health Dept.—Annual Report 1920-21.. 12
Heath, Clyde, Tancook, N.S.—Trial and conviction of 167
Historical Publications Board 4th Annual Report.. 101
Holland, Lee Deportation of.. 130
Hydrographic, Tidal, Current Surveys—Transfer of jurisdiction.. .. .. 44e

I

Income Tax Office, Montreal—Employees 140
Indian Act—Enfranchisements under.. .. 88
Indian Affairs—Annual Report 1920-21.. 27
Indian Agency, Bear River, N.S.. 183
Imperial Government—Advances to from declaration of war.. 215
Immigrants—Placing of upon land in Provs. of Man., Sask., Alta.. 99
Immigration and Colonization—Annual Report 1920-21.. 18
Intoxicants taken into N. W. Ts. under permit.. 86
Insurance—Annual Report of Superintendent, 1920-21.. 8
Insurance on C.N.R. and G.T.P.R. Companies—Placing of.. 124
Internal Economy—Report of Commissioners, House of Commons, 1921-22 43
Interior Department—Annual Report 1920-21.. 26
Inverness Railway and Coal Co.—Acquisition by Govt.. 107
International Labour Conference, Geneva, 1921—Draft Conventions and Recommendations.. .. .. 181b
Investigators of Values—Appointments to London and Paris.. 186

J

Junior County Court Judge, County Nanaimo, B.C.. 207

K

Kootenay Falls, B.C.—Reclamation of.. 218
King's Court Bench, Sask.—Orders and Rules.. 70

L

Labour Dept.—Annual Report 1920-21.. 37
Land grants Prov. of Sask. as bonus to railways.. 198
Lands sold by C.P.R. year ended Sept. 30, 1921.. 84
Larkin, P. C.—Appointment as High Commissioner.. 77
League of Nations:—
Amendments to Covenant.. 181
International Labour Conference, 1921 181b
Reports of meeting, Geneva, 1921.. .. 181a
Librarians of Parliament—Report for 1921 42
Library of Parliament—Annual supplement to catalogue.. .. .. 42a
Lignite Experiments in carbonizing, Bienfait, Sask.. 120
Limitation of Armaments Conference, Washington, 1921—Report and treaties 47
Loan and Trust Companies—Report for 1920.. 143
Lot 225, Hudson Bay Co.'s survey, Parish of St. John, Man.. 216

M

Mail contract, Bonaventure, P.Q.—Changing of.. 145
Mail subsidies and Steamship subventions—Annual Report 1920-21.. .. .. 10a
Marine Hospitals Service Financial statement 74
Migratory Birds Convention Act—Orders in Council 50

Militia :—
Appointments, Promotions, Retirements 64
Army Pay Corps—Data.. 190
Army Service Corps—Data.. 189
Buildings occupied Ottawa, etc.. 190
Generals, etc.—Number, salaries.. .. 193
General Orders.. 63
Military districts—Number, staffs, salaries.. 194
Permanent Force—Strength of.. 190
Militia and Defence—Annual Report 1920-21.. 36
Mineral claims, Yukon Ty.—Recording of.. 157
Mineral output, Yukon Ty.—Royalty tax on.. 160
Mines Department—Annual Report 1920-21.. 26
Miscellaneous Unforeseen expenses—Statement.. 54
Montreal Dry Dock Co.—Leases with Govt.. .. ..165, 165a
Montreal Harbour Commission—Employees.. 158
Multigraph machines in Government Departments—Number, etc.. 170

Mc

McLachlan, J. B.—Communications between Minister of Labour and.. 104
McQuarrie, John C.—Superannuation of 123

N

Naval Service—Annual Report 1920-21.. 39
Naval Service (Fiseries Branch)—Annual Report 1920.. 40
Naval Service—Orders in Council..49, 49a, 49b
National Battlefields Commission—Financial statement.. 61
Natural resources of Western Provinces—Transfer of.. .. ..112, 112a, 142b, 142c
Nautical assessors—mode of appointment.. 206
Newspaper censorship during war.. .. 131
Northern Explosive Co. plant, Rigaud, P.Q.. 191

O

Officials, Government, in receipt higher salaries than deputy ministers.. 196
Order of Grain Buyers—Respecting.. .. 209
Ordinances of Yukon Ty., 1921.. 62
" under N.W.T.'s Act.. 85
Ottawa Improvement Commission—Annual Report 1920-21.. 67

P

Page, H. W. A.—Claims of.. 205
Park St. Charles Company, Limited—Documents.. 203
Patent Commissioner—Annual Report 1920-21.. .. .. 10f
"Pekin," Tug—Employment of.. 166
Penitentiaries—Annual Report 1920-21.. 35
Pension Commissioners—Annual Report 1920-21.. 41
Pensions paid, County Middlesex, 1921-22 217
Persons from Poland, etc., entering under bond to farm.. 125
Postmasters :—
Constituency l'Assomption and Montcalm—Dismissals.. 177
Constituency Richmond and Wolfe—Appointments.. 178
Constituency Richmond and Wolfe—Dismissals.. 179
Postmaster General—Annual Report 1920-21.. 24
Post Offices :—
Avignon, P.Q.—Transfer of.. 151
Carleton, P. Q.—Transfer of.. 146
Bonaventure, P.Q.—Transfer of.. 147
Montreal, P.Q.—Employees.. 152
Paspebiac, P.Q.—Transfer of.. 149
St. Omer, P.Q.—Transfer of.. 148
Shigawake, P.Q.—Transfer of.. 150
Proprietary or Patent Medicine Act—Memorandum re.. 73
Pre-emptions in Alta. and Sask. sold to settlers.. 176
Prime Ministers' Conference, London, Eng., 1921—Summary of Proceedings 48
Purchasing Commission—Origin of goods purchased.. 195
Public Service Act—Retirements under 96
Public Service Act—Rearrangement and transfer of duties.. ..44, 44a, 44b, 44c
Public Accounts of Canada—Annual Report 1920-21.. 2
Public Printing and Stationery—Annual Report 1920-21.. 33
Public Works—Annual Report 1920-21.. 19
Pulp and Paper Statistics, 1919.. 17

Q

Quebec Bridge—Conditions imposed upon railway companies.. 201
Quebec Harbour—Terminal and wharf facilities.. 108
Quebec Harbour Commission—Correspondence with Minister of Marine and Fisheries.. 129
Quebec, Oriental and Atlantic Railway—Merging with Canadian National.. .. 109
Quebec and Western Railway—Merging with Canadian National.. 109

R

Radiotelegraph Regulation No. 104—Amendment to.. 50
Radiotelegraph Service—Transfer of jurisdiction.. .. .. 44c
Railways and Canals—Annual Report 1920-21.. 20
Railway Belt (40 mile), B.C.—Orders in Council.. 81
Railway Belt Water Act—Orders in Council.. 83
Railway Commissioners—Annual Report 1921.. .. .. 20c
Railways—Payments to C.N.R., G.T.R., etc.. 137
Railway between New Glasgow and Thorburn, N.S.. 211
Retirements under Public Service Act.. 96
Returned Soldiers' Insurance—Statement 59
Road projects in N.S.—Advances by Federal Govt.. 210
Royal Canadian Mounted Police—Annual Report 1921.. 28
Royal Canadian Mounted Police—Transfer of control.. .. .. 41a
Royal Society of Canada—Financial Statement.. 60

S

Sardines sold for export—Minimum price 171
School lands in Sask., etc.—Acres sold, etc.. 173
Scientific and Industrial Research—Report of Council, 1920-21.. 51
Scientific and Industrial Research—Financial statement.. .. .. 51*a*
Secretary of State—Annual Report 1920-21.. 29
Shareholders, chartered banks of Canada 106
" Quebec Savings Banks .. 106*a*
Shipbuilding industry—Endorsements or liabilities.. 56
Shipping (Navigation and Shipping)—Annual Report 1920-21.. .. .. 11*a*
Shipping, List of—Annual Report 1921.. 22
Soldiers' Civil Re-establishment—Annual Report 1920-21.. 14
Soldiers' Civil Re-establishment—Expenditures of Dept., 1921.. 115
Soldiers established on land in different provinces.. 119
Soldier Settlement Act — Regulations under.. 87
Soldier Settlement Board—Annual Report 1921.. 90
Sorel shipyards—Dismissals since Dec. 29, 1921.. 135
Stallion Clubs, etc.—Premiums or bonuses paid.. 126
Steamboat Inspection—Annual Report 1920-21.. 23
St Lawrence River Waterway—
Correspondence between Canada and U.S.. .. .. 89*a*
Reports and correspondence.. .. .. 89*f*
Report of International Joint Commission.. 89
Reports of New York State Commission in opposition.. .. ..89*b*, 89*c*, 89*d*. 89*e*
Superannuation and Retiring Allowances, Civil Service, 1921.. 57

T

Taylor, James—Appointment Asst. Supt. Montreal Post Office.. 185
Tobacco Experimental Station, l'Assomption, P.Q.. 184
Temporary Loans Statement.. 55
Timber on Indian lands, Tp. Laird, Dist. Algoma.. 153
Timber on Crown lands, Western Provinces—Licenses for.. 162
Tolls and Duties—Remissions and refunds 91
Topographical Surveys Branch—Annual Report 1920-21.. .. .. 10*b*
Toronto Harbour—Expenditures on 1912-21.. 136
Trade and Commerce—Annual Report 1920-21.. 10
Trade Commissioners, Canadian—List of 156
Trade of Canada (Imports and Exports) —Annual Report 1920-21.. .. .. 10*b*
Trade (reciprocal) with Australia—Correspondence.. 65
Treasury Board over-rulings—Statement 53
Treaties of Peace::—
Allies and Associated Powers and Hungary, 1920.. 212
Allies and Associated Powers and Turkey, 1920.. 213

U

Unclaimed balances, Canadian chartered banks.. .. .. 106*b*
Unclaimed balances, Quebec Savings banks.. .. .. 106*a*
Union Station at Palais, Quebec, P.Q.—Construction and use.. 202

V

Valley Railway, N.B.—Terms of operation.. 163

W

Weights, Measures, Electricity, Gas Services—Annual Report 1920-21.. .. .. .. 10*e*
Winnipeg strike—Correspondence with A. J. Andrews.. .. .. ..138, 138*a*. 138*c*
Winnipeg strike—Correspondence with General Kitchen.. .. .. 138*b*

Y

Young, Gurney, Tancook, N.S.—Trial and conviction of.. 167

LIST OF SESSIONAL PAPERS

Arranged in Numerical Order, with their titles at full length; the dates when Ordered and when presented to the Houses of Parliament; the Names of the Senator or Member who moved for each Sessional Paper, and whether it is ordered to be Printed or not Printed. Also those printed but not presented.

CONTENTS OF VOLUME 1

(This volume is bound in two parts).

1. Report of the Auditor General for the year ended March 31, 1921, Volume I, Parts a-b—A to J. Presented March 13, 1922.....*Printed for distribution and sessional papers.*

Report of the Auditor General for the year ending 31st March, 1921, Volume II, Parts K to SS. Presented March 13, 1922.....*Printed for distribution and sessional papers.*

Report of the Auditor General for the year ended March 31, 1921, Volume III, Parts T to ZZ. Presented March 13, 1922.....*Printed for distribution and sessional papers.*

CONTENTS OF VOLUME 2

(This vgolume is bound in two parts.)

2. Public Accounts of Canada for the fiscal year ended March 31, 1921. Presented March 13, 1922.....*Printed for distribution and sessional papers.*

3. Estimates of sums required for the service of the Dominion for the year ending on the 31st March, 1923. Presented March 24, 1922.
Printed for distribution and sessional papers.

4. Supplementary Estimates of sums required for the service of the Dominion for the year ending on the 31st March, 1923. Presented June 23, 1922.
Printed for distribution and sessional papers.

5. Further Supplementary Estimates of sums required for the service of the Dominion for the year ended on the 31st March, 1922. Presented April 27, 1922.
Printed for distribution and sessional papers.

8. Report of the Superintendent of Insurance of the Dominion of Canada for the year ended 31st December, 1921—Volume I, Insurance Companies other than Life; Volume II, Life Insurance Companies. Not presented.
Printed for distribution and sessional papers.

10. Twenty-ninth Annual Report of the Department of Trade and Commerce for the fiscal year ending March 31, 1921. Presented March 9, 1922.
Printed for distribution and sessional papers.

10*a* Report relating to Mail Subsidies and Steamship Subventions for the fiscal year ending March 31, 1921, with traffic returns, etc., to December 31, 1921. Presented April 28, 1922.....*Printed for distribution and sessional papers.*

CONTENTS OF VOLUME 3

10*b* Annual Report of the Trade of Canada (Imports for Consumption and Exports), for the fiscal year ended March 31, 1921. Presented April 11, 1922.
Printed for distribution and sessional papers.

CONTENTS OF VOLUME 4

10*d* Criminal Statistics for the year ended September 30, 1921. Not presented.
Printed for distribution and sessional papers.

10*e*. Annual Report of the Weights and Measures, Electricity and Gas Inspection Services of the Department of Trade and Commerce for the fiscal year ended March 31, 1921. Presented March 10, 1922.....*Printed for distribution and sessional papers.*

43746—2

CONTENTS OF VOLUME 4—*Concluded.*

10f Report of the Commissioner of Patents for the fiscal year ending March 31, 1921. Presented March 10, 1922.....*Printed for distribution and sessional papers.*

11. Report of the Department of Customs and Excise, containing accounts of revenue with statements relative to the Imports, Exports, and Excise of the Dominion of Canada, for the fiscal year ended March 31, 1921. Presented March 23, 1922.
Printed for distribution and sessional papers.

CONTENTS OF VOLUME 5

11a Shipping Report of the Department of Customs and Excise, containing the Statements of Navigation and shipping of the Dominion of Canada for the fiscal year ended March 31, 1921. Presented March 23, 1922....*Printed for distribution and sessional papers.*

12. Report of the Department of Health for the fiscal year ending March 31, 1921. Presented March 17, 1922.....*Printed for distribution and sessional papers.*

13. Report of the Chief Electoral Officer on the Fourteenth General Election for the House of Commons of Canada, 1921. Presented April 28, 1922.
Printed for distribution and sessional papers.

13a. Report of By-Elections for the House of Commons of Canada, held during the year 1921. Presented April 10, 1922.....*Printed for distribution and sessional papers.*

14. Report of the work of the Department of Soldiers' Civil Re-establisbment for the calendar year ended December 31, 1921. Presented March 24, 1922.
Printed for distribution and sessional papers

15. Report of the Minister of Agriculture for the Dominion of Canada, for the year ending March 31, 1921. Presented March 10, 1922.
Printed for distribution and sessional papers.

15a Report on "The Agricultural Instruction Act," for the fiscal year 1920-21. Presented March 31, 1922.....*Printed for distribution and sessional papers.*

17. Pulp and Paper statistics, 1919—Dominion Bureau of Statistics. Not presented.
Printed for distribution and sessional papers.

CONTENTS OF VOLUME 6

17a Fisheries statistics, 1920—Dominion Bureau of Statistics. Not presented.
Printed for distribution and sessional papers.

18. Report of the Department of Immigration and Colonization, for the fiscal year ended March 31, 1921. Presented March 23, 1922.
Printed for distribution and sessional papers.

19. Report of the Minister of Public Works on the works under his control for the fiscal year ended March 31, 1921. Presented March 13, 1922.
Printed for distribution and sessional papers.

20. Annual Report of the Department of Railways and Canals, for the fiscal year from April 1, 1920, to March 31, 1921. Presented March 17, 1922.
Printed for distribution and sessional papers.

20a Canal Statistics for the year ending December 31, 1921. Not presented.
Printed for distribution and sessional papers.

20c Seventeenth Report of the Board of Railway Commissioners for Canada, for the year ending December 31, 1921. Manuscript. Presented March 31, 1922.
Printed for distribution and sessional papers.

21. Fifty-fourth Annual Report of the Department of Marine and Fisheries, for the fiscal year 1920-21—Marine. Presented March 10, 1922.
Printed for distribution and sessional papers.

CONTENTS OF VOLUME 7

22. List of Shipping, issued by the Department of Marine and Fisheries, being a list of vessels on the registry books of the Dominion of Canada, on the 31st December, 1921. Not presented.....*Printed for distribution and sessional papers.*

CONTENTS OF VOLUME 7—*Concluded.*

23. Supplement to the Fifty-fourth Annual Report of the Department of Marine and Fisheries for the fiscal year 1920-21 (Marine)—Steamboat Inspection Report. Not presented.....*Printed for distribution and sessional papers.*

24. Report of the Postmaster General for the year ended March 31, 1921. Presented March 10, 1922.....*Printed for distribution and sessional papers.*

25. Annual Report of the Department of the Interior, for the fiscal year ended March 31, 1921. Presented March 23, 1922.....*Printed for distribution and sessional papers.*

25a Annual Report of the Topographical Surveys Branch, Department of the Interior, year 1920-21. Not presented.....*Printed for distribution and sessional papers.*

25b Seventeenth Report of the Geographic Board of Canada, containing all decisions from April 1, 1919, to March 31, 1921. Not presented.
Printed for distribution and sessional papers.

26. Report of the Department of Mines, for the fiscal year ending March 31, 1921. Presented March 23, 1922.....*Printed for distribution and sessional papers.*

CONTENTS OF VOLUME 8

27. Annual Report of the Department of Indian Affairs for the year ended March 31, 1921. Presented March 23, 1922.....*Printed for distribution and sessional papers.*

28. Report of the Royal Canadian Mounted Police for the year ended September 30, 1921. Presented March 13, 1922.....*Printed for distribution and sessional papers.*

29. Report of the Secretary of State of Canada for the year ending March 31, 1921. Presented March 13, 1922.....*Printed for distribution and sessional papers*

32. Thirteenth Annual Report of the Civil Service Commission of Canada for the year 1921. Presented June 19, 1922.....*Printed for distribution and sessional papers.*

CONTENTS OF VOLUME 9

33. Annual Report of the Department of Public Printing and Stationery for the fiscal year ended March 31, 1921. Presented March 20, 1922.
Printed for distribution and sessional papers.

34. Report of the Secretary of State for External Affairs for the year ending March 31, 1921. Presented March 10, 1922.....*Printed for distribution and sessional papers.*

35. Report of the Superintendent of Penitentiaries for the fiscal year ended March 31, 1921. Presented March 14, 1922.....*Printed for distribution and sessional papers.*

36. Report of the Department of Militia and Defence, Canada, for the fiscal year ending March 31, 1921. Presented March 13, 1922.
Printed for distribution and sessional papers.

37. Report of the Department of Labour for the fiscal year ending March 31, 1921. Presented March 20, 1922.....*Printed for distribution and sessional papers.*

39. Report of the Department of the Naval Service for the fiscal year ended March 31, 1921. Presented March 13, 1922.....*Printed for distribution and sessional papers.*

40. Fifty-fourth Annual Report of the Fisheries Branch of the Department of the Naval Service, 1920. Not presented.....*Printed for distribution and sessional papers.*

41. Report of the Board of Pension Commissioners for Canada, for the year ending March 31, 1921. Presented March 13, 1922.....*Printed for distribution and sessional papers.*

42. Report of the Joint Librarians of Parliament, for 1921. Presented March 10, 1922.
Not printed.

42a Copy of Annual Supplement to the Catalogue of the Library of Parliament: Classified list of all books and pamphlets added to the Library from January 1, 1921, to December 31, 1921. Presented March 15, 1922..... *Not printed.*

43. Report of the proceedings of the Commissioners of Internal Economy of the House of Commons for 1921-22. Presented March 9, 1922.....*Not printed.*

44. Copies of Orders in Council passed under the provisions of Chapter 6, 8-9 George V, "An Act to authorize Rearrangements and Transfers of duties in the Public Service." Presented March 9, 1922.....*Not printed.*

43746—2½

CONTENTS OF VOLUME 9—*Continued.*

44a Copy of Order in Council, P.C. 923, dated 26th April, 1922, transferring the control and administration of the Royal Canadian Mounted Police from the Minister of Militia and Defence to the Minister of Justice, under the provisions of Chapter VI, 8-9 George V. Presented May 2, 1922.....*Not printed.*

44b Copy of Order in Council, P.C. 957, dated May 3, 1922, transferring the administration of The Government Annuities Act to the Minister of Labour. Presented May 4, 1922. *Not printed.*

44c Copy of Order in Council, P.C. 1246, dated June 14, 1922, authorizing the transfer of the Radiotelegraph Service, Hydrographic Survey, Tidal and Current Survey and Fisheries Protection Service, from the jurisdiction of the Minister of the Naval Service to the Minister of Marine and Fisheries. Presented June 27, 1922.....*Not printed.*

45. Copy of Rules and Regulations of the Board of Grain Commissioners in respect to Country Elevators. Presented March 9, 1922.....*Not printed.*

46. Copy of Orders in Council, P.C. 360, dated 13th February, 1922, authorizing the Minister of Marine and Fisheries to undertake the administration of the fisheries in the tidal and navigable waters of Quebec that are accessible by way of navigation from the sea. Presented March 9, 1922.....*Not printed.*

46a Return to an Order of the House of the 3rd April, 1922, for a copy of the correspondence and all other documents regarding the transfer of fisheries to the Province of Quebec. Presented April 19, 1922. Hon. Mr. Marcil (Bonaventure).....*Not printed.*

47. Copy of Report of the Canadian delegate to the Conference on the Limitation of Armaments held at Washington, November 12, 1921, to February 6, 1922, including Treaties and Resolutions. Presented March 9 and April 3, 1922. *Printed for bound sessional papers and distributed to Senators and Members.*

47a Return to an Address to His Excellency the Governor General of the 24th March, 1922, for a copy of all letters, telegrams, correspondence and other documents exchanged between the Imperial Government and the Government of Canada, and all correspondence passing between officers of the Government of Canada and Sir Robert Borden, concerning the appointment of Sir Robert Borden as Canadian representative at the International Conference for the limitation of armaments at Washington. Also a copy of any Orders in Council in this connection. Presented May 1, 1922. Mr. Casgrain..... *Not printed.*

48. Report of the Conference of Prime Ministers and Representatives of the United Kingdom, The Dominions, and India, held in London, England, in June, July, and August, 1921—Summary of Proceedings and Documents. Presented March 9, 1922. *Not printed.*

49. Orders in Council in respect to the Naval Service as follows: P.C. 2112, dated the 20th June, 1921, *re* entry of Stewards and Cooks. P.C. 2155, dated the 17th August, 1921, *re* allowance to Writer ratings who have qualified in Shorthand. P.C. 3625, dated the 17th October 1921, *re* extra pay for engineroom ratings and cook ratings whilst on ships in tropics. Presented March 13, 1922.....*Not printed.*

49a Order in Council, P.C. 436, March 21, 1922, terms under which officers of Royal Navy may be loaned to the Royal Canadian Navy. Presented March 30, 1922. *Not printed.*

49b Copy of Order in Council, P.C. 1189, dated June 5, 1922, authorizing regulations governing the retirement and discharge of officers and men to promote economy in the Naval Service. Presented June 8, 1922.....*Not printed.*

50. Amendment to Radiotelegraph Regulation, No. 104. Presented March 13, 1922. *Not printed.*

51. Report of the administrative chairman of the Honorary Advisory Council for Scientific and Industrial Research of Canada, for the year ending March 31, 1921. Presented March 13, 1922 .....*Not printed.*

51a Financial Statement of the Honorary Advisory Council for Scientific and Industrial Research of Canada, for the year ended March 31, 1921. Presented March 22, 1922. *Not printed.*

52. Statement of Governor General's Warrants issued since the last session of Parliament on account of 1921-22. Presented March 13, 1922.....*Not printed.*

53. Statement of Treasury Board over-rulings, under Section 44, Consolidated Revenue and Audit Act. Presented March 13, 1922.....*Not printed.*

54. Statement of Expenditure on account of "Miscellaneous Unforeseen Expenses," from the 1st April, 1921, to the 8th March, 1922, in accordance with the Appropriation Act 1921-22. Presented March 13, 1922.....*Not printed*

CONTENTS OF VOLUME 9—*Continued.*

55. Statement of Temporary Loans under Chapter 24, Section 13, R.S. (Consolidated Revenue and Audit Act). Presented March 13, 1922.....*Not printed.*

56. Statement of endorsements made or liabilities incurred under the provisions of Chapter 70, 10-11 Geo. V, An Act respecting the Shipbuilding Industry. Presented March 13, 1922..... *Not printed.*

57. Statement of Superannuation and Retiring Allowances in the Civil Service during the year ended 31st December, 1921, under Chap. 17, R.S.C., showing name, rank, salary, age, service allowance and cause of retirement of each person superannuated or retired, also whether the vacancy has been filled by promotion, or by appointment, and the salary of any new appointee. Presented March 13, 1922.....*Not printed.*

58. Statement in pursuance of Section 17 of the Civil Service Insurance Act, for the year ending March 31, 1921. Presented March 13, 1922.....*Not printed.*

59. Statement of Returned Soldiers' Insurance for period from September 1, 1920, to March 31, 1921. Presented March 13, 1922.....*Not printed.*

60. Statement of the Receipts and Expenditures of the Royal Society of Canada, for the year ended April 30, 1921. Presented March 13, 1922.....*Not printed.*

61. Statement of Receipts and Expenditures of the National Battlefields Commission for the year ended 31st March, 1921. Presented March 13, 1922.....*Not printed.*

62. Ordinances of the Yukon Territory passed by the Yukon Council (First and Second Sessions), in the year 1921. Presented March 13, 1922.....*Not printed.*

63. Copies of General Orders promulgated to the Militia for the period between February 1, 1921, and January 1, 1922. Presented March 13, 1922.....*Not printed.*

64. Appointments, Promotions and Retirements, Canadian Militia and Canadian Expeditionary Force, from February 3, 1921, to November 17, 1921. Presented March 13, 1922. *Not printed.*

65. Copy of correspondence between the late Government of Canada and the Government of Australia with respect to reciprocal trade with Australia. Presented March 13, 1922. *Not printed.*

66. Report of the Chief Electoral Officer as required by Section 74 of the Dominion Elections Act, as of date March 1, 1922. Presented March 14, 1922. *Printed for distribution to Senators and Members.*

67. Report of the Ottawa Improvement Commission for the fiscal year ended March 31, 1921. Presented March 14, 1922.....*Not printed.*

68. Copies of Orders in Council Nos. P.C. 578, P.C. 579, P.C. 2507, P.C. 2508, P.C. 3979, P.C. 3980 and P.C. 4725, approving tariffs of fees of elections officers under section 76 of the Dominion Elections Act. Presented March 14, 1922.....*Not printed.*

69. Amendments to Regulations for the Canadian Air Force, approved by the Governor in Council under Section 5 of the Air Board Act, 9-10, George V, Chapter 11, on the 7th day of August, 1921, and the 12th day of November, 1921. Presented March 15, 1922. *Not printed.*

70. Copy of the consolidated and revised Orders and Rules of the Court of King's Bench of Saskatchewan, in accordance with Section 576 of the Criminal Code. Presented March 15, 1922.....*Not printed.*

71. Copy of General Rules and Orders of the Exchequer Court of Canada, in accordance with the provisions of Section 88 of the Exchequer Court Act, Chapter 140, R.S.C., 1906. Presented March 15, 1922.....*Not printed.*

72. Detailed statement of all bonds or securities registered in the Department of the Secretary of State of Canada, since last return (21st February, 1921), submitted to the Parliament of Canada under Section 32 of Chapter 19, of the Revised Statutes of Canada, 1906. Presented March 16, 1922.....*Not printed.*

73. Memorandum of Proprietary or Patent Medicine Act, as amended by Chap. 66, 9-10 Geo. V. Presented March 17, 1922.....*Not printed.*

74. Statement of Revenue and Expenditure on account of Marine Hospitals Service, from April 1, 1921, to February 28, 1922. Presented March 17, 1922.....*Not printed.*

75. Fifth Annual Report of the Editorial Committee on Government Publications, dated 30th January, 1922. Presented March 17, 1922.....*Not printed.*

CONTENTS OF VOLUME 9—*Continued.*

76. Memorandum presented to the Dominion Government by the Canadian Council of Agriculture regarding the Re-establishment of the Canadian Wheat Board. Presented March 22, 1922..... *Not printed.*

76a. Written opinion of the Law Officers of the Crown upon the question of the constitutionality of the reconstitution of the Wheat Board with the powers conferred thereon by the Orders in Council, establishing or extending the same. Presented April 19, 1922. *Not printed.*

77. Return to an Address of the Senate of the 22nd March, 1922, for a copy of the Order in Council appointing P. C. Larkin as High Commissioner for Canada in London, with a copy of instructions defining his powers and duties. Presented March 22, 1922. Rt. Hon. Sir George Foster.....*Not printed.*

78. Return of Orders in Council which have been published in the *Canada Gazette*, between 1st January, 1921, and the 26th January, 1922, in accordance with the provisions of Section 77 of "The Dominion Lands Act," Chapter 20, 7-8 Edward VII. Presented March 23, 1922.....*Not printed.*

79. Return of Orders in Council which have been published in the *Canada Gazette* between the 1st January, 1921, and the 26th January, 1922, in accordance with the provisions of Section 19, Chapter 10, 1-2 George V—"The Forest Reserves and Parks Act." Presented March 23, 1922.....*Not printed.*

80. Copies of Orders in Council passed between the 1st January, 1921, and the 26th January, 1922, approving of regulations and forms prescribed in accordance with the provisions of Section 4, Chapter 18, 1917. "Migratory Birds Convention Act." Presented March 23, 1922..... *Not printed.*

81. Return of Orders in Council which have been published in the *Canada Gazette* and in the *British Columbia Gazette*, between 1st January, 1921, and the 26th January, 1922, in accordance with provisions of Subsection (*d*) of Section 38 of the regulations for the survey, administration, disposal and management of Dominion Lands within the 40-mile Railway Belt in the Province of British Columbia. Presented March 23, 1922. *Not printed.*

82. Return of Orders in Council which have been published in the *Canada Gazette*, between the 1st January, 1921, and the 26th January, 1922, in accordance with the provisions of Section 5 of "The Dominion Lands Survey Act," Chapter 21, 7-8 Edward VII. Presented March 23, 1922.....*Not printed.*

83. Return of Orders in Council which have been published in the *Canada Gazette*, between the 1st January, 1921, and the 26th January, 1922, in accordance with the provisions of Chapter 47, 2 George V, entitled "The Railway Belt Water Act." Presented March 23, 1922..... *Not printed.*

84. Return showing all lands sold by the Canadian Pacific Railway Company during the year ended 30th September, 1921, together with the names of the purchasers, in accordance with 49 Victoria, Chapter 9, Section 8. Presented March 23, 1922. *Not printed.*

85. Ordinances passed during the period 1st March, 1921, to 28th February, 1922, in accordance with provisions of Section 11, Chapter 62, Revised Statutes of Canada, 1906, Northwest Territories Act. Presented March 23, 1922.....*Not printed.*

86. Return showing the number of permits granted to take intoxicants into the North West Territories, for the year ended the 31st of December, 1921, in accordance with the provisions of the Revised Statutes, Chapter 62, Section 88. Presented March 23, 1922. *Not printed.*

87. Regulations made under the authority of the Soldier Settlement Act, 1919, pursuant to Subsection 2 of Section 63. Presented March 23, 1922.....*Not printed.*

88. Statement showing the number of Enfranchisements under the Indian Act, from 1st April, 1921, to 9th March, 1922. Presented March 24, 1922.....*Not printed.*

89. Report of the International Joint Commission on the St. Lawrence Navigation and Power Investigation, 1921.
Appendices A, B, C, D, E, E2, F, Ga, Gb, H, I, J, K, L, M, N, O, and Book of Plates. Presented March 27 and April 19, 1922..... *Not printed.*

89a. Correspondence between the Government of Canada and the United States Government concerning the St. Lawrence River Improvement scheme. Presented May 30, 1922. *Printed for sessional papers and distribution to Senators and Members.*

CONTENTS OF VOLUME 9—*Continued.*

89*b*. Copy of Progress Report No. 3 of the Commission appointed by the State of New York in opposition to the St. Lawrence Ship Canal and Power Project. Presented June 5, 1922 ..... *Not printed.*

89*c*. Copy of Preliminary Report of the Commission appointed by the State of New York in opposition to the St. Lawrence Ship Canal and Power Project. Presented June 12, 1922. *Not printed.*

89*d*. Copy of Progress Report No. 1 of the Commission appointed by the State of New York in opposition to the St. Lawrence Ship Canal and Power Project. Presented June 12, 1922..... *Not printed.*

89*e*. Copy of Progress Report No. 2 of the Commission appointed by the State of New York in opposition to the St. Lawrence Ship Canal and Power Project. Presented June 12, 1922..... *Not printed.*

89*f*. Return to an Order of the Senate for a copy of all reports and correspondence in relation to the St. Lawrence River Ship Canal. Presented June 27, 1922. Hon. Mr. Casgrain..... *Not printed.*

90. Report of the Soldier Settlement Board on its activities and operations from its inception, January 31, 1918, to March 31, 1921. Presented March 29, 1922....*Not printed.*

91. Statement of Remissions and Refunds in Tolls and Duties, recorded in the Department of the Secretary of State of Canada, for year ended March 31, 1921. Presented March 30, 1922..... *Not printed.*

92. Return to an Order of the House of the 24th March, 1922, for a copy of all letters, telegrams, petitions, accounts and all other documents in possession of, or under the control of the Government of Canada, relating to the musical instruments of the 112th Battalion, Canadian Expeditionary Force. Presented March 30, 1922. Mr. Martell. *Not printed.*

93. Report of the Director of Dominion Experimental Farms for the fiscal year ended March 31, 1921. Presented March 31, 1922.....*Not printed.*

94. Regulations under "The Destructive Insect and Pest Act," pursuant to Section 9, Chapter 31 of 9-10 Edward VII. Presented March 31, 1922.....*Not printed.*

95. Return to an Address to His Excellency the Governor General of the 24th March, 1922, for a copy of all letters, telegrams, petitions, Orders in Council and all other documents in the possession of or under the control of the Government, relating to the application or request made for a lease of the lands and premises of "Fort Edward" (so called), in the town of Windsor, Nova Scotia, for a public play ground, or for the right of use of the Windsor Golf and Tennis Club. Presented March 31, 1922. Mr. Martell. *Not printed.*

96. Second Annual Report of retirements under the Public Service Act, 1920, as amended 1921, from July 1, 1920, the date of the inception of the Act, to December 31, 1921. Presented April 4, 1922.....*Not printed.*

97. Return to an Order of the House of the 24th March, 1922, for a Return showing what amount of money has been spent by the Federal Government in harbour improvements of all kinds in each of the ports of Quebec, Montreal, Halifax, St. John, New Brunswick, Victoria, Vancouver and Prince Rupert, during the years 1900 to 1921, inclusive. Presented April 4, 1922. Mr. McBride.....*Not printed.*

98. Return to an Order of the House of the 3rd April, 1922, for a copy of all documents, correspondence, letters and telegrams passed between the Minister of Immigration or any of his officials, and persons, companies, organizations, since January 1st, 1922, regarding the placing of immigrants upon land in the Provinces of Manitoba, Saskatchewan or Alberta. Presented April 6, 1922. Hon. Mr. Stevens.....*Not printed.*

99. Return to an Address to His Excellency the Governor General of the 24th March, 1922, for a copy of all petitions, letters, telegrams, memoranda, Orders in Council, and all other documents in the possession of or under the control of the Government, relating to the establishment of a Department of Fisheries for the Dominion of Canada, to be presided over and administered by a Minister of Fisheries and officers independent of the Department of Marine and Fisheries. Presented April 6, 1922. Mr. Martell. *Not printed.*

99*a*. Supplementary Return to an Address to His Excellency the Governor General of the 24th March, 1922, for a copy of all petitions, letters, telegrams, memoranda, Orders in Council and all other documents in the possession of or under the control of the Government, relating to the establishment of a Department of Fisheries for the Dominion of Canada, to be presided over and administered by a Minister of Fisheries and officers independent of the Department of Marine and Fisheries. Presented April 10, 1922. Mr. Martell.....*Not printed.*

CONTENTS OF VOLUME 2—*Continued.*

100. Return to an Order of the House of the 29th March, 1922, for a Return showing amount of money paid to the Right Honourable C. J. Doherty since the 11th of May, 1855, (*a*) As Judge; (*b*) As Retired Judge; (*c*) For transportation and other expenses while serving as Judge; (*d*) For indemnity while a Member of the House of Commons; (*e*) Travelling and other expenses while acting as a Member of Parliament; (*f*) As a Minister of the Crown; (*g*) As travelling and other expenses while acting as a Minister of the Crown; (*h*) As travelling and other expenses during his official missions in Europe and the United States; (*i*) As counsel on the Boundary arbitration proceedings between Canada and Newfoundland on the Labrador Coast; and (*j*) As Lawyer and Counsel in any otber cases given to him by the Canadian Government. Presented April 6, 1922. Mr. Lanctot.....*Not printed.*

101. Fourth Annual Report of the Board of Historical Publications, dated 30th March, 1922. Presented April 7, 1922.....*Not printed.*

102. Copy of Report for the year 1921 of positions excluded under the provisions of Section 38B, from the operation of tbe Civil Service Act, 1918, as amended by Chap. 22, 11-12 Geo. V.—Part I in whole. Part II in part. Presented April 7, 1922.....*Not printed.*

103. Return to an Order of the House of the 3rd April, 1922, for a Return showing: 1. The number of buildings or parts of buildings rented by the Government in the city of Ottawa for office purposes. 2. The rental paid in each case. Presented April 7, 1922. Mr. Lucas .....*Not printed.*

104. Return to an Order of the House of the 3rd April, 1922, for a copy of all letters, telegrams, memoranda and other documents passed between the Minister of Labour and Mr. J. B. McLachlan. Presented April 10, 1922. Mr. Stewart (Leeds). *Not printed.*

105. 1. Copy of Memorandum on Anglo-French relations and of the draft of the proposed treaty with France presented by the Prime Minister of the United Kingdom to Mr. Briand at the meeting of the Supreme Council at Cannes, January, 1922. 2. Copy of Resolutions adopted by the Supreme Council at Cannes, January, 1922, as the basis of the Genoa Conference. Presented April 11,1922.....*Not printed.*

105*a*. Return to an Address to His Excellency the Governor General of the 17th May, 1922, for a copy of all correspondence exchanged between the Government of Italy and the Canadian Government, in reference to the International Conference now being held at Genoa, Italy, including the Order in Council appointing delegates for Canada, and all instructions given to the said delegates by the Government of Canada. Presented May 22, 1922. Mr. Boys.....*Not printed.*

106. List of Shareholders in the Chartered Banks of the Dominion of Canada as on December 31, 1921. Presented April 11, 1922.....*Not printed.*

106*a*. Lists (*a*) of Shareholders in Quebec Savings Banks; (*b*) of Unclaimed Balances, etc., in Quebec Savings Banks—made in accordance with Sections 58 and 59 of Chap. 42, Acts of 1913 (Quebec Savings Bank Act). Presented April 11, 1922.....*Not printed.*

106*b*. Lists of Unclaimed Balances, etc., in Canadian Chartered Banks, in accordance with Section 114, Chap. 9, Acts of 1913 (The Bank Act.) Presented April 11, 1922. *Not printed.*

107. Return to an Order of the House of the 24th March, 1922, for a copy of all petitions, letters, memoranda and other documents in any way referring to negotiations carried on for the last three years between the Government of Canada or any Department thereof, and the Inverness Railway and Coal Company, concerning the purchase of said road by the Government. Presented April 19, 1922. Mr. Chisholm.....*Not printed.*

108. Return to an Order of the House of the 3rd April, 1922, for a Return showing: 1. What amount of money has already been advanced the Quebec Harbour Commissioners by the Government of Canada, and what are the dates of such advances. 2. What are the present terminal or wharf facilities at the harbour of Quebec. 3. Whether the said terminal and wharf facilities are being fully utilized. 4. If not, to what extent. 5. The daily capacity of the said facilities, both for incoming and outgoing freight 6. What has been the daily average use of such capacity during the season of navigation. 7. Whether such advances are subject to interest. 8. If so, whether such interest has been paid in full. 9. If not in full, what amount, if any, has been paid. 10. The total arrears of interest. 11. What additional facilities, if any, are now proposed to be installed. Presented April 19, 1922. Sir Henry Drayton.....*Not printed.*

109. Return to an Address to His Excellency the Governor General of the 3rd April, 1922, for a copy of the correspondence with the proprietors of the Quebec, Oriental and Atlantic and the Quebec and Western Railways or other persons on their behalf, concerning the operation or merging of these two roads with the Canadian National System. Presented April 19, 1922. Hon. Mr. Marcil (Bonaventure).....*Not printed.*

CONTENTS OF VOLUME 9—*Continued.*

110. Return to an Order of the House of the 5th April, 1922, for a Return showing: 1. What dry docks are located and operated at Vancouver, Victoria, Prince Rupert, Halifax, St. John, Quebec, and Montreal, respectively. 2. When they were built and put into commission. 3. What the dimensions of each dry dock are. 4. What the total gross tonnage was entering and leaving the Ports of Vancouver, Victoria, Prince Rupert Halifax, St. John, Quebec, and Montreal respectively, during the year 1921. Presented April 19, 1922. Hon. Mr. Stevens.....*Not printed.*

111. Return to an Order of the House of the 10th April, 1922, for a Return showing what amount of money has been spent by the Government of Canada each year from 1896 to 1921 on the following harbours: St. John, Halifax, Quebec, Montreal, Toronto, Hamilton, Victoria and Vancouver. Presented April 19, 1922. Mr. Church. *Not printed.*

112. Return to an Address to His Excellency the Governor General of the 10th April, 1922, for a copy of the Order in Council dated April twenty-first, 1921, which provided for the distribution of the sum granted as a bonus to Civil Servants. Presented April 19, 1922. Mr. Garland (Carleton).....*Not printed.*

113. Return to an Order of the House of the 10th April, 1922, for a copy of all documents, contracts, agreements, correspondence, letters, memoranda and other documents, passing between the Department of Railways and Canals and the Grand Trunk Railway Company, and between either of them with the various brokers and others who had to do with the placing of the loan made by the Grand Trunk Railway Company for Twenty-five million dollars during the year 1921. Presented April 19, 1922. Mr. Putnam.....*Not printed.*

114. Return to an Address to His Excellency the Governor General of the 10th of April, 1922, for a copy of all correspondence, letters, telegrams and other documents, including the Orders in Council, relative to the appointment and dismissal and reinstatement, as clerk, at the Montreal Post Office, of Jean Jacques Caisse. Presented April 19, 1922. Hon. Mr. Marcil (Bonaventure).....*Not printed*

115. Return to an Order of the House of the 3rd April, 1922, for a Return showing: 1. The total expenditure for the year 1921 of the Department of Soldiers' Civil Re-establishment. 2. The total expenditure of the Department divided with respect to—(*a*) Pensions; (*b*) Treatment; (*c*) Vocational Training; (*d*) Land Settlement; and (*e*) Relief of the unemployed. 3. The total expenditure of this Department for the year 1921 for—(*a*) Administration of Pensions; (*b*) Administration and costs of treatment; (*c*) Pay and allowances of those on treatment; (*d*) Administration and costs of Vocational training (*e*) Pay and allowances of those on vocational training; (*f*) Land Settlement Loans; (*g*) Administration costs of land settlement; (*h*) Unemployment relief and (*i*) Administration costs of unemployment relief. 4. The total expenditure for the year 1921 for the staff salaries, and maintenance costs of each hospital. 5. The number of persons, full and part time, who were on each hospital staff, and the average number of patients on the strength of each hospital. 6. The total expenditure for the year 1921 for travelling expenses of the Soldiers' Civil Re-establishment officials, patients not included. 7. The travelling expenses of each Commissioner of the Pension Board for the year 1921. Presented April 20, 1922. Mr. Duff.....*Not printed.*

116. Return to an Order of the House of the 19th April, 1922, for a Return showing: 1. Quantity of coal imported from the United States into Canada in the years 1918-19, 1919-20, 1920-21 by the Government of Canada for use upon (*a*) Railways; (*b*) Federal buildings and public works. 2. Amount of coal imported by the Government of Canada from the United States during the above mentioned years for the use upon railways (*a*) East of Lake Superior; (*b*) West of Lake Superior. 3. Cost of coal per ton imported by the Government of Canada from the United States during the above-mentioned years (*a*) at point of production; (*b*) at point of Canadian delivery. Presented April 20, 1922. Mr. Logan.....*Not printed.*

116*a*. Return to an Order of the Senate dated April 27, 1922, for a Return showing: 1. The quantity of (*a*) bituminous and (*b*) anthracite coal imported from the United States into Canada in each of the years 1896 until 1921, inclusive. 2. The quantity of (*a*) bituminous and (*b*) anthracite coal imported from the United States into Canada in each of the years 1896 until 1921, inclusive, by the Government of Canada for use upon (1) railways; (2) Federal buildings and public works. 3. The amount of (*a*) bituminous and (*b*) anthracite coal imported by the Government of Canada from the United States during the above-mentioned years for use upon railways (1) East of Lake Superior; (2) West of Lake Superior. 4. The cost of such coal per ton imported by the Government of Canada from the United States during the above-mentioned years (1) at point of production; (2) at point of Canadian delivery. Presented June 26, 1922. Hon. Mr. Tanner.....*Not printed.*

CONTENTS OF VOLUME 9—*Continued.*

117. Return to an Order of the House of the 19th April, 1922, for a return showing: 1. Amount of compensation paid out of the vote for health of animals, for cattle slaughtered affected with tuberculosis, during each of the years ending March 31, 1920, 1921, and 1922. 2. Proportion of this amount paid for animals slaughtered in herds supplying milk to the people in cities, towns and villages; not necessarily pure-bred animals, during the years referred to. 3. Proportion of the total grant paid for animals under what is known as the accredited herd system of pure-bred animals, during each of the years referred to. 4. Amount paid out in connection with each of the pure breeds for which compensation was paid during each of the above years. 5. Average compensation per animal paid in connection with each breed referred to in question four, during each of the above years. 6. Total compensation paid in connection with each breed in each province during each of the three years referred to. 7. Number of veterinary inspectors employed by the health of animals branch of the Department in connection with the health of animals during each of the three years referred to. 8. Total amount paid in salaries to inspectors under the health of animals branch during the years above-mentioned. Presented April 24, 1922. Mr. Sutherland.
Not printed.

118. Return to an Order of the House of the 24th April, 1922, for a Return showing: 1. Names, positions and salary of the employees of the Chief Architect's branch, Public Works Department, who worked on the three classifications which were posted in the branch. 2. Which of the three classifications was approved by the Deputy Minister and recommended to the Commission. 3. On what date, month and year reports or cards for classification from Chief Architect's branch were received by the Commission. 4. Whether after such reports or cards for classification were received by the Commission, there were any other special ones issued. 5. If so, on what date, month and year they were issued. 6. By whom they were requested. 7. Names, positions and salary of the persons to whom they were issued. 8. Whether all the employees were informed. If not, why. 9. Duties of those who received these cards. 10. For what position and salary each of them was requested to fill in these cards. 11. To what positions and salaries they were classified. 12. Position and salary of each when the first and second classifications were posted. 13. Amount of back pay each received. 14. Their position and salary, also the year they were appointed in the service. Presented April 24, 1922. Mr. Fournier.....*Not printed.*

119. Return to an Order of the Senate, dated 22nd March, 1922, for a Statement showing:—The number of soldiers who were established on land in the different provinces, the amount of money expended by the Government for that purpose, and whether any part of that money was reimbursed, and how many after a certain time left the farms upon which they had commenced to work. Presented April 26, 1922. Hon. Mr. David.
Not printed.

120. Return to an Order of the Senate, dated March 31, 1922, for a Return showing: 1. How much money has been expended to date by the Lignite Utilization Board experimenting in carbonizing lignite near Bienfait, Sask. 2. Names of Commissioners and amount paid to each. (*a*) for salaries; (*b*) for expenses. 3. When active work was stopped. 4. Names of Engineers now employed or who have been employed, and amount paid to each. (*a*) for salaries; (*b*) for expenses. 5. What did buildings cost. 6. How many houses have been built for Officers and Engineers, and cost of same. 7. How many houses have been built for workmen, and cost of same. 8. What has been cost of water supply. (*a*) for plant; (*b*) for houses. 9. What is the estimated cost of completing the experiments. 10. How many officers, engineers and workmen were on the pay list for February, 1922. 11. Who owns the land in which the plant and houses are built. 12. Who is the directing head in connection with the above experiments. 13. Is the National Research Council of Canada in any way connected with the above-mentioned experiments. 14. What payments, if any, have been made, or are to be made to the National Research Council or any member thereof. Presented April 26, 1922. Hon. Mr. Turriff.....*Not printed.*

121. Return to an Order of the House of the 26th April, 1922, for a return showing: 1. The names of the Trustees, under The Bankruptcy Act, for the district of Montreal. 2. When they were appointed, and their respective occupations before appointment. Presented April 27, 1922. Mr. Archambault.....Not printed.

122. Return to an Order of the House of the 3rd April, 1922, for a copy of the petition presented by Mr. A. Wick and others, asking for improved methods in the Quebec Fisheries, together with all correspondence and other documents relating thereto. Presented May 1, 1922. Hon. Mr. Marcil (Bonaventure). .....*Not printed.*

123. Return to an Order of the House of the 27th March, 1922, for a copy of all letters, telegrams, petitions and other documents in any way referring to the superannuation of John C. McQuarrie, section foreman at West Bay Road, Inverness County. Presented May 1, 1922. Mr. Chisholm.....*Not printed.*

CONTENTS OF VOLUME 9—*Continued.*

124. Return to an Order of the House of the 10th April, 1922, for a copy of all correspondence, letters, memoranda, telegrams and other documents, referring to the placing of the insurance upon the Canadian Northern Railway Company and the Grand Trunk Pacific Company, since the date of the placing of said insurance up to the present time. Presented May 1, 1922. Mr. Macdonald (Pictou).....*Not printed.*

125. Return to an Order of the House of the 24th April, 1922, for a return showing a list of the names of persons from Poland, Roumania or Russia, who were allowed to enter Canada under bond to go farming, and who have been found, on investigation, to have violated terms of the said bond. Presented May 1, 1922. Hon. Mr. Stevens. *Not printed.*

126. Return to an Order of the House of the 24th April, 1922, for a return showing: 1. How many Stallion Clubs received a premium or bonus from the vote for live stock during the year 1921. 2. Total amount so distributed, and the number of said clubs which received such grants, in each province, during the said year. 3. Number of pure-bred sires of each breed distributed by the Department of Agriculture during the five years ending March 31, 1922. 4. Number of animals placed in each province, and at what total cost per province, during the said period. 5. Amount paid out by the Department of Agriculture in payment of freight and expenses on car lots of cattle, during the year 1921. 6. Amount so paid in each province during the said year. 7. Amount paid out by the Department of Agriculture in grants on payment of freight on feed or live stock during each of the years 1919, 1920 and 1921. 8. How much of this amount was paid out in each province during the above-mentioned years. 9. Whether any complaints have been made to the Department of Agriculture during the past year against live stock commission firms operating at the live stock yard markets under regulations of the department. 10. If so, the names of the agents complained of at each market, their respective offences and penalties imposed. Presented May 2, 1922. Mr. Sutherland ..... *Not printed.*

127. Return to an Address to His Excellency the Governor General of the 24th April, 1922, for a copy of all correspondence, letters, telegrams and other documents exchanged between the Canadian and the British Governments, respecting an Address passed by the Canadian Parliament on the subject of extra-territorality rights of the Dominion Presented May 2, 1922. Rt. Hon. Mr. Meighen.....*Not printed.*

128. Return to an Address to His Excellency the Governor General of the 3rd April, 1922, for a copy of all correspondence passed during the year 1921, between the Prime Minister of Canada and the Prime Minister of Ontario, relating to the activities of Honourable Manning Doberty in England on the subject of the Cattle Embargo. Presented May 2, 1922. Mr. White.....*Not printed.*

129. Return to an Order of the House of the 24th March, 1922, for a copy of all correspondence, telegrams and other documents exchanged between the Minister of Marine and Fisheries and the Harbour Commissioners at Quebec or any of them, since the taking of office of the present Government. Presented May 4, 1922. Rt. Hon. Mr. Meighen. *Not printed.*

130. Return to an Order of the House of the 24th March, 1922, for a copy of all correspondence, telegrams and other documents exchanged between the Department of Immigration and Colonization or any of its officers or employees, and W. A. Rae, and Mr. Crandall, representing the Department, or between said Department and any one else relating to the case of Lee Holland and the question of his deportation. Presented May 4, 1922. Rt. Hon. Mr. Meighen .....*Not printed.*

131. Return to an Order of the House of the 24th April, 1922, for a return showing a list of the names of the persons who were employed as newspaper censors during the war, the name and location of the newspapers which were censored, the date of censorship and a copy of the articles censored. Also a copy of the regulations of the said censorship. Presented May 4, 1922. Mr. Archambault.....*Not printed.*

132. Return to an Address to His Excellency the Governor General of the 3rd May, 1922, for a copy of all letters, telegrams and other documents relative to the Petition of the Eastern LaHave Transportation Company, Limited, and others, to the Secretary of State for External Affairs, and of all communications and replies from the United States Government relative to the said Petition and to the facts disclosed therein. Presented May 4, 1922. Mr. Macdonald (Pictou).....*Not printed.*

133. Return to an Order of the Senate, dated March 29, 1922, for a statement showing: The number of passengers to and from points north and west of Moncton, from points on the C.N.R. (*a*) East of New Glasgow; (*b*) from Halifax (excluding passengers from abroad travelling on through tickets in both cases). Presented May 4, 1922. Hon. Mr. McLennan ..... *Not printed.*

CONTENTS OF VOLUME 9—*Continued.*

134. Return to an Order of the House of the 19th April, 1922, for a return showing: 1. Offices, buildings or parts of buildings rented for Government purposes in the city of Calgary. 2. From what owners and through what rental agents such offices, buildings or parts of buildings are rented. 3. Rental paid in each case. 4. For what period such offices, buildings or parts of buildings are rented. 5. Which of such leases, if any, have been renewed by the present Government. Presented May 5, 1922. Mr. Shaw..... *Not printed*

135. Return to an Order of the House of the 27th March, 1922, for a return showing the names of all persons dismissed from the Sorel Shipyards since the 29th of December, 1921, together with the cause of dismissal in each case. Also showing the names of all persons taken on at the said shipyards during the same period, showing the cause for employment of each person. Presented May 5, 1922. Mr. Hanson....*Not printed.*

136. Return to an Order of the House of the 1st May, 1922, for a return showing: 1. Sums of money voted by the Federal Government for the Harbour of Toronto in the years 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920 and 1921. 2. Sums spent by the Federal Government for the Harbour of Toronto in the same years. 3. Nature of the works done with the said amounts. 4. Number of steamers containing freight entered at the customs of the port of Toronto in the fiscal years 1920-21 and 1921-22. 5. Total dead weight tonnage of the said vessels in the two fiscal years mentioned. Presented May 8, 1922. Mr. Archambault.....*Not printed.*

137. Return to an Order of the House of the 3rd April, 1922, for a return showing: 1. The total payments made in each year by the Government from 1914 to date, (*a*) to or for the Canadian Northern System, (*b*) to or for the the Grand Trunk System, (*c*) to or for the Grand Trunk Pacific System, (*d*) to or for the National Transcontinental, and (*e*) for the Intercolonial, distinguishing in each year the amounts loaned by the Crown, and in the case of the Intercolonial Railway, distinguishing between expenditure charged to revenue and expenditure charged to capital. 2. The several amounts in each year that were guaranteed for the said railways during the said periods, and the amount not borrowed of any amount guaranteed. 3. What portions of those amounts so paid or guaranteed (other than with respect to the Intercolonial) were for capital expenditure and what sums were to meet deficits. 4. What amount of each loan guaranteed was for refunding purposes. Presented May 8, 1922. Mr. Kennedy (Glengarry and Stormont).....*Not printed.*

138. Return to an Order of the House of the 24th April, 1922, for a copy of all letters, correspondence, telegrams, orders, instructions and other documents exchanged between the Solicitor General or any member of his Department, and Alfred J. Andrews, relative to the strike in Winnipeg during the year 1919. Presented May 8, 1922. Mr. McMurray..... *Not printed*

138*a*. Return to an Order of the House of the 24th April, 1922, for a copy of all letters, correspondence, telegrams, orders, instructions and other documents exchanged between the Minister of the Interior or any member of his Department and Alfred J. Andrews, relative to the strike in Winnipeg during the year 1919. Presented May 11, 1922. Mr. McMurray .....*Not printed.*

138*b*. Return to an Order of the House of the 24th April, 1922, for a copy of all letters, correspondence, telegrams, orders, instructions and other documents, exchanged between the Minister of Justice, the Minister of Labour, the Solicitor General, the Minister of the Interior, or any person connected with these Departments, and General Kitchen, relative to the strike in Winnipeg during the year 1919. Presented May 15, 1922. Mr. McMurray..... *Not printed.*

138*c*. Return to an Order of the House of the 24th April, 1922, for a copy of all letters, correspondence, telegrams, orders, instructions and other documents, exchanged between the Minister of Labour or any Member of his Department and Alfred J. Andrews, in connection with the strike in Winnipeg in the year 1919. Presented May 19, 1922. Mr. McMurray..... *Not printed.*

139. Return to an Order of the House of the 5th April, 1922, for a return showing: 1. The number of persons made permanent in the Civil Service from the 1st of April, 1920, to the 1st of January, 1922. 2. The number of persons made permanent in the said service from December 7, 1921, to January 6, 1922, inclusive. Presented May 8, 1922. Mr. Demers ..... *Not printed.*

140. Return to an Order of the House of the 1st May, 1922, for a return showing: 1. Names of the persons employed in the Income Tax Office at Montreal. 2. The salary, and the date of appointment of each of said employees. Presented May 8, 1922. Mr. Archambault ..... *Not printed.*

141. Report of the Air Board for the year 1921. Presented May 9, 1922.....*Not printed.*

CONTENTS OF VOLUME 9—*Continued.*

142. Return to an Order of the Senate of March 22, 1922, for a Return including all correspondence between the Federal Government and the Ministers and Departments of the Federal Government and Provincial Governments and persons representing such Provincial Governments in regard to the natural resources of the Western Provinces; also all Orders in Council, reports, statements, Minutes of Conferences and other documents and writings relating to the subject of the transfer of such natural resources to the western provinces. Presented May 9, 1922. Hon. Mr. Tanner.....*Not printed.*

142*a*. Return to an Address to His Excellency the Governor General of the 8th May, 1922, for a copy of all correspondence passing between the Prime Minister of Canada and the Governments of Manitoba, Saskatchewan and Alberta, since 10th July, 1920, respecting the transfer of natural resources. Presented May 15, 1922. Rt. Hon. Mr. Meighen.....*Printed for sessional papers*

142*b*. Supplementary return to an Address to His Excellency the Governor General of the 8th May, 1922, for a copy of all correspondence passing between the Prime Minister of Canada and the Governments of Manitoba, Saskatchewan and Alberta, since 10th July, 1920, respecting the transfer of natural resources. Presented May 29, 1922. Rt. Hon. Mr. Meighen ..... *Printed for sessional papers.*

142*c*. Supplementary Return to an Order of the Senate, dated March 22, 1922, for a Return to include all correspondence between the Federal Government and the Ministers and Departments of the Federal Government and Provincial Governments and persons representing such Provincial Governments in regard to the natural resources of the Western Provinces; also all Orders in Council, reports, statements, Minutes of Conferences and other documents and writings, relating to the subject of the transfer of such natural resources of the Western Provinces. Presented June 6, 1922. Hon. Mr. Tanner ..... *Not printed*

143. Report of the Superintendent of Insurance for the year ended December 31, 1920—Loan and Trust Companies. Presented May 10, 1922.....*Not printed.*

144. Return to an Order of the House of the 1st May, 1922, for a return showing: 1. Number of armouries built in Canada during the years 1912, 1913, 1914, and 1915. 2. Where the said armouries are located, and the cost of building and equipment in each case. 3. Annual cost of maintenance of each of said armouries, including caretakers, heating and other expenses. Presented May 10, 1922. Mr. Baldwin.....*Not printed.*

145. Return to an Order of the House of the 10th April, 1922, for a copy of all letters, telegrams, correspondence and other documents, relating to the changing of the mail contracts at Bonaventure, Quebec, from Sylvestre Bernard to J. A. Bernard. Presented May 11, 1922. Hon. Mr. Marcil (Bonaventure).....*Not printed.*

146. Return to an Order of the House of the 10th April, 1922, for a copy of all letters, telegrams, correspondence and other documents, relating to the transfer of the Post Office at Carleton, Quebec, from Bernard Leclerc to Auguste Lefebvre. Presented May 11, 1922. Hon. Mr. Marcil (Bonaventure).....*Not printed.*

147. Return to an Order of the House of the 10th April, 1922, for a copy of all letters, telegrams, correspondence and other documents, relating to the transfer of the Post Office at Bonaventure, Quebec, from Charles Forest to Firmin Poirier. Presented May 11, 1922. Hon. Mr. Marcil (Bonaventure).....*Not printed.*

148. Return to an Order of the House of the 10th April, 1922, for a copy of all letters, telegrams, correspondence and other documents, relating to the transfer of the Post Office at St. Omer, Quebec, from Isidore Laundry to Nicholas Arseneau. Presented May 11, 1922. Hon. Mr. Marcil (Bonaventure).....*Not printed.*

149. Return to an Order of the House of the 10th April, 1922, for a copy of all letters, telegrams, correspondence and other documents, relating to the transfer of the Post Office at Paspebiac, Quebec, from the late Mrs. J. E. Leveque to Charles Legallais. Presented May 11, 1922. Hon. Mr. Marcil (Bonaventure).....*Not printed.*

150. Return to an Order of the House of the 10th April, 1922, for a copy of all letters, telegrams, correspondence and other documents, relating to the transfer of the Shigawake, Quebec, Post Office, from John A. Legallais to Jas. Poirier. Presented May 11, 1922. Hon. Mr. Marcil (Bonaventure).....*Not printed.*

151. Return to an Order of the House of the 10th April, 1922, for a copy of all letters, correspondence and other documents, relating to the transfer of the Post Office at Avignon, Quebec, from Joseph Poirier to Mathias Blaquaire and Joseph Arsenault. Presented May 11, 1922. Hon. Mr. Marcil (Bonaventure).....*Not printed.*

152. Return to an Order of the House of the 1st May, 1922, for a return showing: 1. Names of the employees of the Montreal Post Office. 2. Respective dates of employment of said persons. 3. Salary of each of said employees. Presented May 11, 1922. Mr Archambault..... *Not printed*

CONTENTS OF VOLUME 9—*Continued.*

153. Return to an Order of the House of the 19th April, 1922, for a copy of Timber License issued to the Union Bank of Canada or any other parties to cut timber on Indian Lands in the Township of Laird, District of Algoma, together with a copy of all correspondence, letters, memoranda, telegrams and other documents, passing between the Indian Agent at Sault St. Marie, the Licensees or any other parties, and the Department of Indian Affairs, in connection therewith. Also a statement of all dues paid the Department in respect to said License. Presented May 11, 1922. Mr. Simpson. *Not printed.*

154. Return to an Order of the House of the 1st May, 1922, for a return showing: 1. Whether it is the intention of the Government to operate the greater production farms on the Blackfoot Indian Reserve at Gleichen, Alberta, this year. 2. If not, how does the Government intend disposing of them. 3. Whether proper precautions will be taken to prevent the country being seeded with weeds from these neglected farms. 4. Number of acres broken by the Government on these farms. 5. The cost per acre. 6. From whom, at what place, and at what price the seed wheat for these farms was purchased. 7. From whom, at what point, and at what price the feed oats were purchased during the first and second years of operation. 8. Average yield each year of operation. 9. Net price received per bushel for wheat grown. 10. To whom this wheat was sold. 11. Net profit per acre each year. Presented May 11, 1922. Mr. Garland (Bow River) ..... *Not printed.*

155. Return to an Order of the House of the 8th May, 1922, for a Return showing:—1. Whether it is a fact that appeals made by many Civil Servants who are dissatisfied with their classification never reach the Board of Hearing. 2. Whether it is true that such appeals are from the decisions of heads or chiefs of branches who declined to recommend the classifications claimed to be in accord with the character of the work done by such Civil Servants. 3. Whether it is true such appeals fail to reach the Board of Hearing because they are so prevented by the heads or chiefs against whose decisions such appeals are made. 4. If so, whether the Government intends taking any steps to see justice done such Civil Servants, by having their appeals reach the Board of Hearing notwithstanding the opposition of such heads or chiefs against whose decisions such appeals are made. 5. If not, why not. Presented May 11, 1922. Mr. Lanctot.....*Not printed.*

156. Return to an Order of the House of the 11th May, 1922, for a return showing:—1. In what countries Canada is represented by trade agents. 2. Names of said agents, and salary each receives. Presented May 11, 1922. Mr. Prevost...*Not printed.*

157. Return to an Address to His Excellency the Governor General of the 3rd April, 1922, for a copy of all correspondence, telegrams, reports and other documents exchanged between the Department of the Interior or any of its officers or employees, and the Gold Commissioner of Yukon Territory, or any other person or official, concerning the application to Yukon Territory of the Order in Council which provides that the Mining Recorders shall not receive for record, transfers of interests in mineral claims, when such interests are less than one quarter interest. Also a copy of the said Order in Council. Presented May 15, 1922. Mr. Black (Yukon).....*Not printed.*

158. Return to an Order of the House of the 1st May, 1922, for a return showing a list of the names of the permanent employees of the Montreal Harbour Commission, the salary of each, date of appointment and salary on appointment, age, occupation, and the respective previous occupations of said employees. Presented May 15, 1922. Mr. Archambault .....*Not printed.*

159. Return to an Order of the House of the 26th April, 1922, for a copy of all correspondence, telegrams, letters, agreements, contracts, claims, memoranda and other documents between the Caraquet and Gulf Shore Railway Company and the Government of Canada, relating to the purchase of the said railway. Presented May 15, 1922. Mr. Hanson. ..... *Not printed.*

159*a*. Supplementary Return to an Order of the House of the 26th April, 1922, for a copy of all correspondence, telegrams, letters, agreements, contracts, claims, memoranda and other documents between the Caraquet and Gulf Shore Railway Company and the Government of Canada, relating to the purchase of the said railway. Presented May 19, 1922. Mr. Hanson .....*Not printed.*

160. Return to an Address to His Excellency the Governor General of the 3rd April, 1922, for a copy of all correspondence, telegrams, reports, and other documents exchanged between the Department of the Interior, or any of its officers or employees, and the Gold Commissioner of the Yukon Territory, or any other person, during the years 1919, 1920 and 1921, concerning the imposition of a Royalty tax or Government charge upon the output of minerals, other than gold, for the Yukon Territory. Also a copy of the Order in Council in this connection. Presented May 16, 1922. Mr. Black (Yukon) .....*Not printed.*

CONTENTS OF VOLUME 9—*Continued.*

161. Return to an Order of the Senate of the 16th May, 1922, for a Return showing:—1. The total cost of construction and repairs of each canal in Canada. 2. Between what points is each canal situated and the mileage of each. 3. The total expenditure for upkeep and operation of each canal during each of the years since 1910. 4. What income has been received from each of the canals each year since 1910. Presented May 16, 1922. Hon. Mr. McDonald.....*Not printed.*

162. Return to an order of the Senate, dated March 29, 1922, for a Return showing:—1. A list of all licenses issued by the Government, now in force, for timber berths and the right to cut timber on Crown Lands in the Provinces of Manitoba, Saskatchewan, Alberta and British Columbia. 2. The names and residence of the holders of such licenses and the area contained in each berth. 3. On what terms and conditions were such licenses granted. 4. What is the area and location of timber berths in said provinces still unlicensed and the estimated quantity and description of timber in each berth. Presented May 16, 1922. Hon. Mr. Proudfoot.....*Not printed.*

163. Return to an Order of the House of the 10th April, 1922, for a Return showing: 1. Amount of bonds (*a*) of the Canadian Northern, (*b*) of the Grand Trunk Pacific guaranteed by any of the provinces, and which province in each case. 2. Whether the guaranteeing provinces have been relieved of liability by the Federal Government taking over these railway systems. 3. Bonds or other securities in connection with railways in (*a*) New Brunswick; (*b*) Nova Scotia; (*c*) Prince Edward Island guaranteed or assumed by the Federal Government. 4. Terms under which the Department of Railways operates the Valley Railway, so called, in New Brunswick. 5. Whether this railway is operated as part of the Intercolonial or under what jurisdiction it has been placed. 6. Whether its operation entails any loss to the Federal Government. If so, to what amount and of what it consists. 7. Whether the Government is considering the taking over of the Valley Railway, so called. Presented May 17, 1922. Hon. Mr. Baxter. .....*Not printed.*

164. Return to an Order of the House of the 17th May, 1922, for a Return showing:—1. The consumption of binder twine and rope, in the various provinces of Canada, during the year 1921. 2. How much of this was manufactured in Canada. Presented May 17, 1922. Mr. Gordon.....*Not printed.*

165. Return to an Order of the Senate dated May 10, 1922, for a Copy of the different leases between the Government and the Montreal Dry Dock Company. Presented May 18, 1922. Hon. Mr. Boyer.....*Not printed.*

165*a*. Supplementary Return to an Order of the Senate, dated May 10, 1922, for a Return for a Copy of the different leases between the Government and the Montreal Dry Dock Company. Presented June 16, 1922. Hon. Mr. Boyer.....*Not printed.*

166. Return to an Order of the House of the 1st May, 1922, for a copy of all correspondence, letters, telegrams, contracts, tenders and other documents, relating to the employment or use of the tug *Pekin*, and any other tug or tugs hired or used by the Government in connection with the Government dredges, in and around Prince Edward Island, from June, 1911, to March 31, 1922. Presented May 19, 1922. Mr. MacLean (Prince) .....*Not printed.*

167. Return to an Order of the House of the 27th March, 1922, for a copy of all letters, telegrams, reports, memoranda, informations and warrants, minutes of evidence and convictions, and all other Court proceedings relating or in anywise appertaining to the trial and conviction of Clyde Heath and Gurney Young, of Tancook, Nova Scotia, for a violation of the Migratory Birds Convention Act. Also a copy of the Order in Council dated on or about the 19th day of November, 1921, authorizing and empowering the remission of all fines and forfeitures occasioned by the conviction of said Clyde Heath and Gurney Young. Presented May 19, 1922. Mr. Martell. *Not printed.*

168. Return to an Order of the House of the 1st May, 1922, for a Return showing:—1. Names of the employees of the Department of Customs and Excise, Montreal. 2. Salary paid to each of said employees. 3. Respective dates of employment of said employees. Presented May 22, 1922. Mr. Archambault.....*Not printed.*

169. Return to an Order of the House of the 4th May, 1922, for a Return showing:—1. The cost of the trips to Europe of the Ministers of the Canadian Government during the war period and since. 2. The cost for each Minister who attended any of the after war conferences held at Paris, Geneva or elsewhere in Europe. 3. How much, if any, each one of such Ministers has returned to the Treasury of the amounts allowed for such trips over and above their actual expenses. 4. The names of such Ministers and the respective amounts allowed to each, as well as the amounts returned by each. Presented May 22, 1922. Mr. Lanctot.....*Not printed.*

CONTENTS OF VOLUME 9—*Continued.*

170. Return to an Order of the House of the 8th May, 1922, for a Return showing:—1. Number of multigraph machines in use in the various departments of the Government. 2. Volume of work done on these machines, by departments, during the fiscal year 1921-1922. 3. Whether this work is under the control of the Editorial Committee. Presented May 22, 1922. Mr. McDonald (Timiskaming).....*Not printed.*

171. Return to an Order of the House of the 26th April, 1922, for a copy of all petitions or memorials from residents of the County of Charlotte, New Brunswick, made to the Department of Marine and Fisheries, asking that a minimum price per hogshead be placed on all sardines sold for export during the present fishing season, and for a copy of all correspondence and other documents relating thereto. Presented May 22, 1922. Mr. Grimmer.....*Not printed.*

172. Return to an Order of the House of the 22nd May, 1922, for a copy of all letters, telegrams, correspondence and other documents that have passed between the officials of the Grand Trunk Railway, the officials of the Brotherhood of Railway Trainmen, and the Order of Railway Conductors, and all agreements signed between the officials of the Grand Trunk Railway and officials of the Brotherhood of Railway Trainmen and the Order of Railway Conductors, regarding the strike on the Grand Trunk Railway System, of trainmen and yardmen, in 1910, and particularly the correspondence and agreements affecting the seniority rights of the men who worked during this strike. Presented May 23, 1922. Mr. King (Huron).....*Not printed.*

173. Return to an Order of the House of the 11th May, 1922, for a Return showing:—1. How many acres of School Lands have been sold in Saskatchewan, Manitoba, and Alberta, during the four years of 1918, 1919, 1920 and 1921. 2. Amount of money overdue in respect to the above sales in (*a*) principal, and (*b*) interest. Presented May 29, 1922. Mr. Spencer.....*Not printed.*

174. Return to an Order of the House of the 15th May, 1922, for a return showing:—1. Number of Civil Servants in Canada receiving salaries of eight hundred dollars and less per annum. 2. Number receiving nine hundred and sixty dollars or less. Presented May 29, 1922. Mr. McQuarrie.....*Not printed.*

175. Partial Return to an Order of the House of the 5th April, 1922, for a Return showing in detail the amount of money paid by the Government of Canada or any department thereof, to barristers and solicitors of the Supreme Court of Nova Scotia, between the 1st day of October, 1911, and the 30th day of January, 1922, both inclusive, for professional or other services. Also a copy of all bills of costs, expenses and charges of every kind rendered by said barristers and solicitors to the Government, showing the amount or amounts paid in each instance. Also showing the names of barristers and solicitors employed during the aforesaid period, the work performed and the amount paid for every item of said work to each of said barristers and solicitors. Presented May 29, 1922. Mr. Martell.....*Not printed.*

175*a-b-c* Supplementary Returns to an Order of the House of the 5th April, 1922, for a Return showing in detail the amount of money paid by the Government of Canada or any department thereof, to barristers and solicitors of the Supreme Court of Nova Scotia, between the 1st day of October, 1911, and the 30th day of January, 1922, both inclusive, for professional or other services. Also a copy of all bills of costs, expenses and charges of every kind rendered by said barristers and solicitors to the Government, showing the amount or amounts paid in each instance. Also showing the names of barristers and solicitors employed during the aforesaid period, the work performed and the amount paid for every item of said work to each of said barristers and solicitors. Presented June 5, 15, 19, 1922. Mr. Martell....*Not printed.*

176. Return to an Order of the House of the 6th April, 1922, for a Return showing:—1. The total area in acres in the provinces of Alberta and Saskatchewan sold to settlers as Pre-emptions, as provided by Dominion Lands Act, 1908. 2. What area of said Pre-emptions has been patented. 3. The total revenue received from: (*a*) Pre-emptions for which patent has been issued, (*b*) Pre-emptions which have not been patented. 4. The amount remaining unpaid on all pre-empted lands in said area. 5. The revenue received from pre-empted lands in said area in the years 1920 and 1921. 6. How much land in said area was sold as purchased homesteads since 1908, and the revenue received therefrom. 7. The amount remaining unpaid on said purchased homesteads. 8. How much land was pre-empted south of Weyburn-Lethbridge railway since 1908. 9. How much revenue was received therefrom. 10. How much was received in the years 1920 and 1921. Presented May 29, 1922. Mr. McTaggart ..... *Not printed.*

177. Return to an Order of the House of the 15th May, 1922, for a Return showing:—1. Names of the postmasters, and the location of their offices, in the county of l'Assomption and Montcalm who were dismissed from the service from the twenty-first of September, 1911, to January first, 1922, and the names of persons replacing them. 2. Who recommended the dismissals and appointments. Presented June 1, 1922. Mr. Seguin .....*Not printed.*

CONTENTS OF VOLUME 9—*Continued.*

178. Return to an Order of the House of the 8th May, 1922, for a Return showing: 1. Number of postmasters who have been appointed in the constituency of Richmond and Wolfe, from the 21st September, 1911, to the 1st of January, 1922. 2. Names of said postmasters, the location of post offices and the names of the persons who recommended the appointment in each case. Presented June 1, 1922. Mr. Tobin. *Not printed.*

179. Return to an Order of the House of the 8th May, 1922, for a Return showing:— 1. Number of postmasters dismissed from office, in the constituency of Richmond and Wolfe, from the 21st day of September, 1911, to the 1st day of January, 1922. 2. Number of postmasters who resigned their offices in the constituency of Richmond and Wolfe during the same period. 3. Number of postmasters who died in the said constituency during the same period. 4. What were, in each case, the names of the postmasters and the names of the post offices. 5. Cause of dismissal in each case where the postmaster was dismissed, during the said period. Presented June 1, 1922. Mr. Tobin. ..... *Not printed.*

180. Return to an Order of the House of the 31st May, 1922, for a Return showing:— 1. Cost for operation and maintenance of the Fisheries of British Columbia annually, for the years 1917-1918, 1919-1920 and 1921, in the nature of office staff, buildings, upkeep and rentals, patrol, boats and upkeep, field work, hatcheries, and any other such items that may be charged against this department. 2. Amount of revenue collected from the Fisheries of British Columbia by the Dominion Fisheries Department, annually, for the years 1917-1918, 1919-1920 and 1921, in the form of license fees, royalties on canned salmon, prosecutions and fines, sale of confiscated boats and gear, and any such revenue as may be collected by the department. Presented June 5, 1922. Mr. Neill.....*Not printed.*

180*a*. Return to an Address to His Excellency the Governor General of the 22nd May, 1922, for a copy of all letters, telegrams, correspondence, reports, and other documents, exchanged between the Government of Canada or any Minister thereof, and the Government of British Columbia or any minister thereof, or received from any person, relative to the advisability of transferring the control or administration of the Canadian fisheries of the Pacific coast, to the province of British Columbia. Presented June 20, 1922. Mr. McQuarrie.....*Not printed.*

181. Protocols embodying Amendments to Articles 4, 6, 12, 13, 15, 16, and 26 of the Covenant of the League of Nations, as adopted by the Second Assembly of the League at Geneva on the 3rd, 4th and 5th October, 1921; together with letter dated the 24th November, 1921, from the Secretary General of the League to the Prime Minister of Canada, transmitting certified copies of the Protocols. Presented June 7, 1922. *Printed for Sessional Papers and distribution to Senators and Members.*

181*a*. Return to an Order of the Senate of the 8th June, 1922, for a Return showing:— 1. Whether the Government has received any report from the representatives of Canada as to the Second Assembly of the League of Nations held in Geneva in September and October, 1921, and if so, whether this report will be laid on the table for the information of members. 2. Whether the Government has received the printed reports of the Council of the League of Nations made to the first and second Assembly, and if so, whether copies of these reports will be laid on the table for the information of members. 3. Whether the Government has received the printed monthly summary and supplementary reports of the League of Nations and whether copies of these reports will be brought down. Presented June 8, 1922. Rt. Hon. Sir Geo. E. Foster. *Not printed.*

181*b*. Copy of Draft Conventions and Recommendations adopted by the International Labour Conference at its Third Session, held at Geneva, 25th October-19th November, 1921. Presented June 24, 1922 .....*Not printed.*

182. Return to an Order of the House of the 15th May, 1922, for a copy of all correspondence, telegrams, letters, tenders and other documents, exchanged between the Government and Hector Chevrier, regarding the contract for carrying the mails between Rigaud and St. Redempteur, Quebec. Presented June 8, 1922. Mr. Ouimet. *Not printed*

183. Return to an Address to His Excellency the Governor General of the 10th April, 1922, for a copy of all letters telegrams, memoranda, reports to Council, Orders in Council, accounts and other documents, relating to the Indian Agency at Bear River, Digby County, Nova Scotia, including a list of all supplies of every description supplied for the use of Indians under the control of said agency. Also a statement showing a list of the supplies, consisting of clothing, food, seed and other materials, to whom supplied and what quantity in each case, during the period from the first October, 1911, to and including the first of January, 1922. Presented June 8, 1922. Mr. Lovett ..... *Not printed.*

184. Return to an Order of the House of the 15th May, 1922, for a copy of all correspondence, letters, telegrams, memoranda and other documents, regarding the establishment of a Tobacco Experimental Station at l'Assomption, Quebec, and the purchasing of the college farm for this purpose. Presented June 9, 1922. Mr. Seguin...*Not printed.*

CONTENTS OF VOLUME 9—*Continued.*

185. Return to an Order of the House of the 1st May, 1922, for a copy of all letters, telegrams, correspondence and other documents exchanged between the Post Office Department at Ottawa, and the officers of the said department at Montreal, and the Civil Service Commission, regarding the appointment of Mr. Taylor as Assistant Superintendent at Montreal Post Office. Presented June 12, 1922. Mr. Parent. *Not printed.*

186. Return to an Order of the House of the 24th April, 1922, for a copy of all correspondence, letters, telegrams and other documents regarding the appointment of one or more appraisers for Paris and London, made by the Civil Service Commission. Presented June 12, 1922. Mr. Parent.....*Not printed.*

187. Return to an Order of the House of the 19th April, 1922, for a Return showing:—1. Total amount of bonus paid to civil servants up to April 1, 1921. 2. Total amount paid to civil servants on account of annual statutory increase for the fiscal years 1918, 1919, 1920 and 1921. Presented June 12, 1922. Mr. Lanctot.....*Not printed.*

188. Return to an Order of the House of the 20th April, 1922, for a Return showing:—1. The total Customs collections received by the Port of Parry Sound, Ontario, during each year, from 1911 to 1921, inclusive. 2. What towns or cities in Canada, having equal or less average Customs collections, have public buildings used for Customs purposes. Presented June 12, 1922. Mr. Arthurs.....*Not printed.*

189. Return to an Order of the House of the 17th May, 1922, for a Return showing:—1. Cost, in each Military District, of transportation, in connection with the Army Service Corps. 2. Number of horses, automobiles, motor trucks and other vehicles in the Army Service Corps. 3. Number of officers and men in this section of the Militia. 4. Total value of all equipment of the Army Service Corps, and amount spent on upkeep and repairs to equipment, including forage, sickness, etc., during the year ending March 31, 1922. 5. Whether this service would cost less to the country if the forage, supplies, and transportation were given by contract each year to an individual, according to lowest tender, or done by day work. Presented June 13, 1922. Mr. Lanctot.....*Not printed.*

190. Return to an Order of the House of the 31st May, 1922, for a Return showing:—1. What buildings were occupied, as offices, at Ottawa, by the Department of Militia and Defence, for the year ending March 31, 1911, and for the year ending March 31, 1922, (*a*) for the General Headquarters, and (*b*) for each service of this department. 2. What buildings were occupied, as offices, in each Military District, (*a*) for the District Staff; (*b*) for the Army Pay Corps; (*c*) for the Veterinary Corps; (*d*) for the Medical Corps; (*e*) for the Engineers Corps; (*f*) for the Ordnance Corps; and (*g*) for the Army Service Corps. 3. Strength of the Permanent Force in each Military District for the year ending March 31, 1911, and for the year ending March 31, 1922. 4. During the above years, the number of officers of the Army Pay Corps, the respective rank and salary of each, and the number of clerks employed in this service, in each district. 5. Whether the department in future intends to keep more than one officer of the Army Pay Corps in each district, and to continue the Auditor Branch which was organized in each Military District during the war. Presented June 13, 1922. Mr. Lanctot.....*Not printed.*

191. Return to an Order of the Senate, dated May 18, 1922, for:—A Copy of the different letters, telegrams and other documents exchanged between the Government and the Northern Explosive Company, concerning the erection and operation of the Rigaud plant belonging to this company. Presented June 13, 1922. Hon. Mr. Boyer. *Not printed.*

192. Return to an Order of the Senate, dated June 6, 1922, for:—Copies of all correspondence exchanged between the Minister of Agriculture of the Dominion of Canada, and the Minister of Agriculture of the province of Ontario, on the subject of extending to Cold Storage Warehouses, owned by co-operative companies of fruit growers, the system of subsidies to public Cold Storage Warehouses now provided for by the Cold Storage Act, 1907, chapter six. Presented June 13, 1922. Hon. Mr. Laird. *Not printed.*

193. Return to an Order of the House of the 15th May, 1922, for a Return showing:—1. Number of Generals on active service in the Canadian Militia. 2. How many in Ottawa. 3. Respective salaries, including allowances, of each General stationed at Ottawa. 4. Number of Colonels, Lieutenant-Colonels, Majors, Captains and Lieutenants at Headquarters, Ottawa. 5. Number of non-commissioned officers and privates employed as clerks or messengers at Headquarters, Ottawa. 6. Total amount paid in salaries to the above-mentioned officers and men. Presented June 15, 1922. Mr. Lanctot.....*Not printed.*

194. Return to an Order of the House of the 15th May, 1922, for a Return showing:—1. Number of Military Districts in Canada during the year ending March 31, 1922. 2. Where they were located, and the rank of the Commanding Officer of each district. 3. Their respective ranks on March 31, 1914. 4. Number of officers on the General Staff of each of the said districts during the year ending March 31, 1922. 5. The

CONTENTS OF VOLUME 9—*Continued.*

rank, and the respective duties of each of the said officers, including the Commanding Officer. 6. Number of non-commissioned officers and privates employed as clerks in the offices of the General Staff of each of the said districts. 7. Number of officers, non-commissioned officers and men employed in each of the said districts, during the year ending March 31, 1922, in connection with the Medical Corps, Engineering Corps, Pay Corps, Army Service Corps, Veterinary Corps and Military Stores, and rank of these officers. 9. On what date the new schedule for salaries and allowances came into force. 9. Who is authorized to fix the schedule for salaries and allowances of the Militia. 10. Maximum salary, including allowances, for Colonels, Lieutenant-Colonels, Majors, Captains, Lieutenants, non-commissioned officers and privates, of the Permanent Militia, according to both the new and old schedules. 11. Salaries, including allowances, of Generals who are stationed at Headquarters, Ottawa, according to the new and old schedules. 12. Number of privates in the Permanent Militia on March 31, 1922. 13. Number of Generals, Colonels, Lieutenant-Colonels, Majors, Captains and Lieutenants, on active service in the Canadian Militia on March 31, 1922. 14. Strength of a company and regiment of the Militia in peace time. Presented June 15, 1922. Mr. Lanctot.....*Not printed.*

195. Return to an Order of the House of the 22nd May, 1922, for a Return showing the origin of all goods purchased by the Purchasing Commission, distinguishing such as are of Canadian manufacture from those of foreign origin, from the first of April, 1921, to date. Presented June 16, 1922. Mr. Raymond.....*Not printed.*

196. Return to an Order of the House of the 8th May, 1922, for a Return showing:—1. Whether the Government is aware that there are instances of officials in the public service subordinate to Deputy Ministers who are in receipt of salaries more than those paid to such Deputy Ministers. 2. If so, whether it is the policy of the Government to continue this custom. 3. Deputy Ministers or other officials in the public service receiving more than six thousand dollars per annum from any Government source. Presented June 16, 1922. Mr. Chisholm.....*Not printed.*

197. Return to an Address to His Excellency the Governor General of the 31st May, 1922, for a copy of all letters, telegrams, memoranda, reports to Council, Orders in Council, and other documents passing between the Government and any other parties relating to the internment, deportation, return, and claims for compensation of Robert DeBeaux. Presented June 16, 1922. Mr. Neill.....*Not printed.*

198. Return to an Order of the Senate, dated May 17, 1922, for a Return showing:—(*a*) The aggregate number of acres of land located within the present territorial limits of the province of Saskatchewan granted by way of subsidy or bonus for the construction of railways beyond the boundaries of the said province. (*b*) The names of the persons and companies receiving such grant and the amount in each case, and date. (*c*) The dates or approximate dates of selections of land by the persons and companies receiving the bonus or grant. (*d*) The locations of the land so selected or finally selected by the grantees. Presented June 16, 1922. Hon. Mr. Willoughby. *Not printed.*

199. Annual Report of the Canadian National Railways for the year ended 31st Deember, 1921. Presented June 19, 1922.....*Not printed.*

200. Third Annual Report of the Board of Directors of Canadian Government Merchant Marine, Limited, for the year ended 31st December, 1921. Presented June 19, 1922. *Not printed.*

201. Return to an Order of the House of April 24, 1922, for a copy of all letters, telegrams, applications, petitions and other documents exchanged between the Government and individuals or companies, referring to conditions imposed on various railway companies intending to use the Quebec Bridge for the purpose of reaching the city of Quebec. Presented June 19, 1922. Mr. Parent.....*Not printed.*

202. Return to an Order of the House of April 24, 1922, for a copy of contracts, correspondence, agreements and other documents, during the period from the year 1911 to date, between the Government directly, or through any Commission, and the Canadian Pacific Railway or any other railway, referring to the construction and use of the Union Station at Palais, city of Quebec. Presented June 19, 1922. Mr. Parent. *Not printed.*

203. Return to an Order of the House of March 24, 1922, for a copy of all correspondence, letters, telegrams, and other documents exchanged between the Departments of Justice and Marine and Fisheries and the Compagnie du Parc St. Charles, Limited. Presented June 19, 1922. Hon. Mr. Marcil (Bonaventure).....*Not printed.*

204. Return to an Order of the House of May 18, 1922, for a Return showing:—1. The number of civil servants in the employ of the Government on the first of January, 1912, and the total amount of salary paid to them. 2. The number of civil servants in the employ of the Government on the first of January, 1922, and the total amount of salary paid to them. Presented June 19, 1922. Mr Seguin.....*Not printed.*

CONTENTS OF VOLUME 9—*Continued.*

205. Return to an Order of the House of May 22, 1922, for a copy of all letters, telegrams, correspondence and other documents exchanged between the Government of Canada and any other parties, relative to the claims of H. W. A. Page. Presented June 19, 1922. Mr. Neill.....*Not printed.*

206. Return to an Order of the House of May 10, 1922, for a copy of all correspondence between the Minister of Marine and Fisheries or any official of that department, and the Minister of Justice or any official of his department, in reference to judgment given by Mr. Justice Morrison, of British Columbia, in regard to the mode of appointment of persons to act as nautical assessors to assist the Dominion wreck commissioners in an investigation of wrecks and other marine casualties. Presented June 19, 1922. Mr. Church.....*Not printed.*

207. Return to an Order of the House of the 22nd May, 1922, for a copy of all letters, telegrams, correspondence and other documents exchanged between the Government of Canada and any other parties, relating to the appointment and residence in the County, of Junior County Court Judge, for the County of Nanaimo, British Columbia. Presented June 20, 1922. Mr. Neill.....*Not printed.*

208. Return to an Address to His Excellency the Governor General of the 5th June, 1922, for a copy of all correspondence, letters, telegrams, and other documents exchanged between the Dominion Government or any minister or officers thereof, and the Government of British Columbia, or the Premier of the said province or any minister or officer thereof, regarding the assumption by the Dominion Government of an issue of Canadian Northern bonds (estimated $40,000,000) guaranteed by the province of British Columbia and the releasing of the British Columbia Government of all liability in regard to the same. Presented June 21, 1922. Hon. Mr. Stevens. *Not printed.*

209. Return to an Order of the House of the 12th June, 1922, for a copy of all letters, telegrams and documents or correspondence passing between the Order of Grain Buyers and the Board of Grain Commissioners, or passing between the Order of Grain Buyers and the Government or between the Board of Grain Commissioners and the Government or officials thereof respecting the said Order of Grain Buyers. Presented June 21, 1922. Hon. Mr. Stevens.....*Not printed.*

210. Return to an Order of the Senate dated June 8, 1922, for a Return showing:—1. The road projects in respect to which the Federal Government has made payments to the Government of Nova Scotia. 2. The amount paid in respect to each of the projects and the dates of payment. 3. The balances, if any, claimed by the Government of Nova Scotia in respect to each of the projects. 4. All other road projects which have been submitted by the Government of Nova Scotia to the Federal Government, the mileage of each, the proposed cost of each; and the projects respectively that have been approved by the Federal Department. Presented June 21, 1922. Hon. Mr. Tanner.....*Not printed.*

211. Return to an Order of the Senate dated June 8, 1922, for a return of copies of all agreements between the Government or any department of the Government and the Acadia Coal Company in respect to the railway between New Glasgow and Thorburn in Nova Scotia. Presented June 21, 1922. Hon. Mr. Tanner.....*Not printed.*

212. Copy of Treaty of Peace between the Allied and Associated Powers and Hungary, and Protocol and Declaration, signed at Trianon, June 4, 1920. Presented June 22, 1922. *Not printed*

213. Copy of Treaty of Peace with Turkey, signed at Sèvres, August 10, 1920. Presented June 22, 1922.....*Not printed*

214. Return to an Order of the House of the 15th June, 1922, for a Return showing:—1. The amounts paid by the Government, and to whom, for auditing public expenditure since the Civil Service Act of 1918 became effective. 2. The total amount of the claims of the Clarkson Commission for inquiry and audit in the Militia Department in respect of the sterling exchange payments to returned soldiers and others. 3. Whether any or all of the sterling exchange payments made by the Chief Accountant were audited by the Audit Staff of the Militia Department. 4. The total amount computed or estimated to have been fraudulently obtained in exchange transactions by or on behalf of returned soldiers or others. 5. Whether any of the officials or employees of the Accounts Branch, Militia Department, who were connected with or responsible for handling sterling exchange payments to returned soldiers or others, received any increase in pay or were classified in a higher grade by the Civil Service Commission after undertaking this sterling exchange work. 6. If so, the names of such officials or employees. 7. At what rate of pay Messrs. Allen, Lowe and Hubbell were paid each fiscal year since their appointment, and on what dates increases of pay by reclassification or otherwise became effective. 8. Before being permanently appointed, whether these men passed any examination prescribed by the Civil Service Commission. Presented June 23, 1922. Mr. Vien.....*Not printed*

CONTENTS OF VOLUME 9—*Concluded.*

215. Return to an Order of the House of the 1st May, 1922, for a Return showing:—1. The amount of money the Canadian Government advanced to the Imperial Government each year, from the declaration of the late war up to the present date, and on what dates the said amounts were advanced. 2. How much, if any, the Government of Canada has received as reimbursement for these advances. 3. Whether this reimbursement was made in cash or in kind. 4. If in kind, what articles were received, and of what value. Presented June 23, 1922. Mr. Vien.....*Not printed.*

216. Return to an Order of the House of the 10th April, 1922, for a copy of all letters, telegrams, correspondence, rulings of the department, and all other documents regarding the claim for compensation to the owners of Crown Patents to lot two hundred and twenty-five, Hudson Bay Company's survey, in the parish of St. John, Manitoba. Presented June 23, 1922. Mr. Garland (Carleton).....*Not printed.*

217. Return to an Order of the House of June 7, 1922, for a Return showing:—1. What pensions have been paid by the Government, in the county of Middlesex, during the fiscal year 1921-22. 2. To whom such pensions were paid and their home addresses. 3. The amount paid in pensions. Presented June 27, 1922. Mr. Drummond. *Not printed.*

218. Return to an Address to His Excellency the Governor General of the 12th June, 1922, for a copy of all letters, telegrams, petitions, memoranda, Orders in Council, Minutes of Council, and other documents in the possession, or under the control of the Government of Canada or of any department thereof, of date subsequent to April 30, 1920, relating to the proposed reclamation of the area in the province of British Columbia and the state of Idaho known as the Kootenay Flats. Presented June 27, 1922. Mr. Humphrey ..... *Not printed.*

219. Partial Return to an Order of the Senate of the 22nd March, 1922, for a statement showing the number of employees appointed in the different departments of the Government each year since 1911, up to 1922, and the increase of cost of the Civil Service since 1911. Presented June 27, 1922. Hon. Mr. David.....*Not printed.*

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CANADA

DOMINION BUREAU OF STATISTICS

FISHERIES DIVISION

FISHERIES STATISTICS

1920

(Prepared in collaboration with Dominion and Provincial Fisheries Departments.)

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
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CONTENTS.

Preface iii
Note on the Canadian Fisheries iv

Introduction and Summary.

Quantity and Value of Chief Commercial Fishes, 1916-20 v
Fishing Conditions and Results, 1920 vi
Summary of Production, 1920 vii

Agencies of Production, 1918-1920—
In Primary Operations—
Capital xi-xii
Employees xi-xii

In Fish Canning and Curing Establishments—
Capital xi-xiii
Employees xi-xiii
Character of Organization and Average Number of Persons Employed. xiii
Employees and Salaries and Wages xiii
Number of Wage-earners by Months xiv
Classification of Wage-earners According to Daily Wages xiv
Time in Operation xiv
Fuel Used xiv
Power Employed xiv
Miscellaneous Expenses xiv
Value of Materials Used xv
Value of Product xv
Classification of Establishments According to Value of Product xv

Review by Provinces—
Total Value of Fisheries, 1916-1920 xv
Quantity and Value of Chief Commercial Fishes, 1916-1920 xvi-xix
Quantity and Value of All Fish Caught and Marketed, 1920 xix-xxv
Quantity of Sea Fish taken offshore, 1920 xxvi-xxix
Capital Equipment, 1920 xxx-xxxi

Fishing Bounties, 1920 xxxii
Imports and Exports, 1920 xxxii
Historical Review xxxii-xxxiv

General Tables.

I Fish Caught and Marketed, 1920 2-64
Prince Edward Island, 2; Nova Scotia, 4; New Brunswick, 32; Quebec, 43; Ontario, 52; Manitoba, 52; Saskatchewan, 54; Alberta, 56; Yukon, 56; British Columbia, 58.

II Agencies of Production, 1920—Capital Equipment, Employees, etc. 66-89
Part 1 In Primary Operations
Prince Edward Island, 66; Nova Scotia, 68; New Brunswick, 76; Quebec, 80; Ontario, 84; Manitoba, 84; Saskatchewan, 86; Alberta, 86; Yukon, 86; British Columbia, 88.

Part 2 In Fish Canning and Curing Establishments. 90
(a) General Summary of Statistics. 90
(b) Capital Invested. 96
(c) Employees and Salaries and Wages 98
(d) Number of Wage-earners by Months 104
(e) Classification of Wage-earners According to Daily Wages 106
(f) Time in Operation and Hours Worked 106
(g) Quantity and Value of Fuel Used. 110
(h) Power Employed 112
(i) Character of Organization 114
(j) Classification of Establishments According to Value of Product 115
(k) Classification of Establishments According to Number of Employees 116

III (1) The Salmon Pack of British Columbia, 1910-1920 118
(2) Fishing Bounties, 1920 119
(3) Imports and Exports of Fish and Fish Products, 1920 120
(4) Fish Landed in United States Atlantic Ports by Canadian Vessels, 1918-1920 128

FISHERIES, 1920.

Preface

This Report is issued under an arrangement for statistical co-operation between the Dominion Bureau of Statistics and the Government branches having jurisdiction with regard to fisheries throughout Canada. These branches comprise: the Dominion Fisheries Branch of the Department of Marine and Fisheries, which exercises jurisdiction over the sea fisheries and over the inland fisheries of Manitoba, Saskatchewan, Alberta and Yukon Territory, and the Fisheries Branches of Ontario and Quebec, which have jurisdiction over the inland fisheries of their respective provinces. The inland fisheries of the Maritime Provinces are, from a commercial standpoint, comparatively unimportant; but their statistics, as in the case of British Columbia, are collected by the officers of the Dominion Fisheries Branch. The province of British Columbia has a Fisheries Branch, but it does not engage in independent statistical work.

Under the arrangement above referred to, the statistics of the catch, and of the products marketed in a fresh state or domestically prepared, are collected by the local officers of the Fisheries Branches, checked in the Department of Marine and Fisheries, and compiled in the Dominion Bureau of Statistics. In the case of manufactured fish products, schedules in conformity with those of other sections of the Census of Industry are sent by the Bureau to the operators of canneries, fish curing establishments, etc., the fisheries officers assisting in securing an expeditious and accurate return. The grateful acknowledgments of the Bureau are tendered to the officers of the provincial Governments who co-operate in these arrangements.

R. H. COATS,
Dominion Statistician.

DOMINION BUREAU OF STATISTICS,
OTTAWA, September 7, 1921.

Note on the Canadian Fisheries.

Canada possesses the most extensive fisheries in the world, and the abundance, quality and variety of their product are unexcelled. The fertility of Canadian waters is indicated by the fact that the entire catch of salmon, lobsters, herring, mackerel, and sardines, nearly all the haddock, and many of the cod, hake, and pollock landed are taken within ten or twelve miles from shore.

The coast line of the Atlantic provinces from Grand Manan to Labrador, not including the lesser bays and indentations, measures over 5,000 miles, whilst the sea areas to which this forms the natural basin embrace: the Bay of Fundy, 8,000 square miles in extent; the gulf of St. Lawrence, fully ten times that size; and other ocean waters aggregating not less than 200,000 square miles, or over four-fifths of the fishing grounds of the North Atlantic. In addition there are 15,000 square miles of inshore waters, entirely controlled by the Dominion. Large as are these areas, they represent only a part of the fishing grounds of Canada. Hudson bay, with a shore 6,000 miles in length, is greater than the Mediterranean; the Pacific coast of the Dominion measures over 7,000 miles long, and is exceptionally well sheltered for fishermen; whilst throughout the interior is a series of lakes which together cover 220,000 square miles, or more than half the fresh water of the Globe, Canada's share of the great lakes of the St. Lawrence basin alone amounting to 34,000 square miles.

Of even greater importance are the abundance and general excellence of the product. The cod and the salmon have long disputed the primacy among these, though in recent years the heavy pack and the high price of lobsters have sometimes sent cod to third place.

The fisheries of the Atlantic coast may be divided into two distinct classes; the deep-sea, and the inshore or coastal fisheries. Deep-sea fishing is pursued in vessels of from 40 to 100 tons, carrying crews of from twelve to twenty men, who fish with hook and line, also in steam vessels of approximately 150 feet in length known as steam trawlers. The bait used is chiefly herring, squid and caplin, and the fish taken are principally cod, haddock, hake, pollock and halibut. The inshore or coastal fishery is carried on in small boats, usually motor driven, with crews of from two to three men, and in a class of small vessels with crews of from four to seven men. The means of capture employed by boat fishermen are gill nets and hooks and lines, both hand-lines and trawls; whilst from the shore are operated trapnets, haul seines and weirs. The commercial food fishes taken inshore are the cod, hake, haddock, pollock, halibut, herring, mackerel, alewife, shad, smelt, flounder, and sardine. The most extensive lobster fishery in the world is carried on along the whole of the eastern shore of Canada, whilst excellent oyster beds exist in many parts of the gulf of the St. Lawrence, notably off Prince Edward Island. The salmon fishery is the predominant one on the Pacific coast, but a very extensive halibut fishery is carried on in the northern waters of British Columbia, in large well-equipped steamers and vessels. The method of capture is by trawling, dories being used for setting and hauling the lines, as in the Atlantic deep-sea fishery. Herring are in great abundance on the Pacific coast, and provide a plentiful supply of bait for the halibut fishery. In the inland lake fisheries, the various means of capture in use are gill nets, pound nets, seines, and hooks and lines.

FISHERIES, 1920.

The total value of the product of the Canadian Fisheries during 1920 was $49,241,339, compared with $56,508,479 in 1919 and $60,250,544 in 1918. These totals represent the value of the product as marketed, whether fresh, domestically prepared or factory-made.

The following table shows the quantity and value of the chief commercial fishes (those valued at $100,000 or upwards) during the past five years, with a statement in the final column of the increase or decrease during 1920 as compared with 1919.

1. Quantity[1] and Value[2] of Chief Commercial Fishes, 1916-1920

Kind of Fish		1916	1917	1918	1919	1920	Increase or decrease 1920 compared with 1919 inc.+ dec.−
Salmon	cwt.	1,239,668	1,642,770	1,531,773	1,688,653	1,284,729	−403,924
	$	10,882,431	17,411,029	17,869,517	17,889,913	15,595,970	−2,293,943
Lobsters	cwt.	480,898	474,871	264,096	345,806	399,985	+54,179
	$	5,508,054	5,654,265	3,531,104	5,338,343	7,152,455	+1,814,112
Cod	cwt.	2,026,231	2,302,987	2,206,666	2,606,770	1,982,706	−624,064
	$	5,449,964	8,281,920	10,083,562	9,987,612	6,270,171	−3,717,441
Halibut	cwt.	142,823	140,024	207,139	243,449	262,726	+19,277
	$	2,263,573	2,066,635	5,490,226	5,119,842	4,535,188	−584,654
Herring	cwt.	1,751,314	1,481,708	1,973,669	1,573,986	2,072,723	+498,737
	$	3,050,421	3,693,688	4,719,561	3,347,080	3,428,298	+81,218
Whitefish	cwt.	164,992	178,838	205,044	197,403	181,764	−15,639
	$	1,135,486	1,248,006	1,927,863	1,849,741	2,015,299	+165,558
Haddock	cwt.	582,028	712,416	554,366	564,574	441,745	−122,829
	$	1,711,271	2,936,719	2,796,171	2,048,746	1,522,680	−526,066
Mackerel	cwt.	156,075	167,067	196,781	229,877	142,347	−87,530
	$	924,746	1,333,354	1,937,211	2,035,849	1,126,703	−909,146
Pickerel (including blue pickerel)	cwt.	105,428	86,425	70,088	85,644	95,678	+10,034
	$	871,719	650,632	649,180	750,163	868,048	+117,885
Sardines	bbl.	315,832	274,359	295,770	214,525	196,649	−17,876
	$	1,481,261	1,910,705	2,320,513	830,074	860,268	+30,194
Smelts	cwt.	68,629	73,153	87,555	75,271	58,118	−17,153
	$	847,357	1,027,555	971,206	835,195	789,361	−45,834
Trout	cwt.	88,071	75,662	86,608	68,670	55,763	−12,907
	$	741,610	699,950	808,770	862,966	708,633	−154,333
Pilchards	cwt.	....	....	1,363	72,723	88,050	+22,426
	$	....	....	11,810	413,853	371,871	540,265	+168,394
Hake and cusk	cwt.	385,953	321,605	245,051	244,749	175,719	−69,030
	$	757,456	890,265	844,565	645,570	361,446	−284,124
Pollock	cwt.	143,306	189,908	164,502	227,963	141,302	−86,661
	$	268,756	486,195	574,832	602,264	295,102	−307,162
Pike	cwt.	73,993	79,383	60,100	58,163	43,691	−14,472
	$	404,453	429,396	403,514	327,675	264,896	−62,779
Tullibee	cwt.	58,537	64,910	74,411	49,457	38,588	−10,869
	$	301,060	333,686	324,022	268,999	246,319	−22,680
Alewives	cwt.	80,020	98,277	78,616	70,577	65,384	−5,193
	$	117,083	196,482	237,994	231,200	209,603	−21,597
Perch	cwt.	22,773	24,707	27,886	18,547	20,976	+2,429
	$	114,656	126,723	150,608	185,257	206,685	+21,428
Black cod	cwt.	[3]	[3]	29,966	10,527	25,783	+15,256
	$	..	..	285,034	116,580	181,202	+64,622
Clams and quahaugs	bbl.	54,942	55,655	40,554	36,446	26,143	−10,303
	$	195,805	222,965	169,799	160,125	147,409	−12,716
Oysters	bbl.	18,361	13,632	13,916	14,565	14,526	−39
	$	147,751	109,265	123,570	153,276	146,863	−6,413

[1]Caught and landed. [2]Marketed. [3]Included with cod.

Fishing Conditions and Results, 1920.

The weather during the first four months of the year, especially on the Atlantic coast, was stormy and cold. Fishing operations were interrupted thereby, and much fishing gear was either lost or damaged. Two steam trawlers were lost entirely.

The outstanding feature of the year's results is a very large falling off in the aggregate catch of cod, haddock, hake and pollock. The shortage was not due to scarcity of fish, but rather to a poor demand at lower prices, which caused many fishermen to give up fishing altogether. The greater part of the four kinds named is split, salted and dried for consumption in foreign markets, which are also supplied by Newfoundland, United States, Norway, Great Britain and France. During the war years, with Great Britain and France completely out of the business and Norway largely so, prices rose to an abnormal level. The unsettled state into which the business of the world has been thrown, however, since the ending of the war and the landing of pre-war supplies by the fishing fleets of Europe, temporarily blocked the outlets for this product and caused prices to drop to a level at which fishermen found it unremunerative to continue operations.

The salmon catch on the Pacific coast fell short of that in the preceding year. This was largely due to the poor demand for the cheaper grades, pinks and chums. Since the war ended, it has been found difficult to get rid of large quantities of those cheaper kinds; packers therefore, did not pack as many as usual in the past season. The catch of salmon on the Atlantic coast, all of which was consumed fresh, was considerably less than that of the preceding year.

There was a great increase in the herring catch. Most of the increase, however, came from the Pacific coast in the opening months of the year.

The lobster fishery on the Atlantic coast gave good results throughout the season. The increase in the catch was common on all parts of the coast.

The mackerel fishery was not as successfully prosecuted as in the preceding year, owing chiefly to rough weather in the early summer, which evidently kept the fish from coming near the shore of Nova Scotia, in their usual numbers.

There was a decrease in the catch of halibut on the Atlantic coast, but on the Pacific coast, notwithstanding some interruption to the fishery, due to a shortage of refrigerator cars at Prince Rupert, the quantity landed was considerably greater.

The sardine fishery of the Bay of Fundy was again poor. Prices were so low as to make fishermen's operations unprofitable. This industry has not yet recovered from the slump in the demand for the canned product, which took place at the close of the war.

The smelt fishery, which has its chief seat along the south shore of the Gulf of St. Lawrence, resulted in a smaller catch than that taken in the preceding year.

Other and less important kinds of sea fish were produced in about their usual numbers.

The fisheries of Alberta, Saskatchewan and Manitoba were not quite so successful as in the preceding year. Fewer fishermen operated and winter fishing was delayed, owing to the late formation of ice on the lakes, while the lack of snow made it almost impossible for operators to reach the more distant points where the best winter fishing takes place. Prices were somewhat higher, however, than in the preceding year.

Summary of Production, 1920.

The following table gives a statement for the whole of Canada of all fish caught and marketed during 1920. For each kind the total caught and the value at the vessel's or boat's side is first given, this being followed by statements showing the form in which each kind was marketed and the value.

2.—Quantity and Value of All Fish Caught and Marketed, Canada, during the year 1920.

Kind of Fish		Sea Fisheries	
		Quantity	Value
			$
Cod, caught and landed	cwt.	**1,982,706**	**5,232,831**
Marketed—			
Used fresh..	cwt.	118,755	702,667
Greensalted .	cwt.	167,840	932,173
Smoked fillets	cwt.	38,055	436,778
Smoked	cwt.	278	3,810
Dried	cwt.	444,776	3,809,470
Boneless..	cwt.	25,547	344,215
Canned.. ..	cases	3,481	29,348
Roe...	cwt.	40	400
Liver oil, medicinal..	gal	11,049	11,310
Total value marketed....		–	6,270,171
Haddock, caught and landed	cwt.	**441,745**	**878,914**
Marketed—			
Used fresh....	cwt.	107,500	455,647
Canned.. .	cases	17,020	129,654
Boneless...	cwt.	136	1,780
Smoked .	cwt.	67,750	623,214
Greensalted	cwt.	25,433	74,440
Dried...	cwt.	38,835	237,945
Total value marketed..		–	1,522,680
Hake and cusk, caught and landed	cwt.	**175,719**	**222,037**
Marketed—			
Used fresh...	cwt.	3,589	10,357
Greensalted...	cwt.	40,705	114,679
Smoked...	cwt.	150	1,200
Smoked fillets..	cwt.	2,606	33,385
Dried . .	cwt.	27,370	199,015
Boneless .	cwt.	347	2,810
Total value marketed...		–	361,446
Pollock, caught and landed	cwt.	**141,302**	**207,665**
Marketed—			
Used fresh...	cwt.	11,960	26,821
Greensalted...	cwt.	17,215	54,727
Smoked fillets	cwt.	2,630	34,055
Dried .	cwt.	29,131	179,499
Total value marketed..		–	295,102
Whiting, caught and landed	cwt.	**36**	**198**
Marketed fresh ..	cwt.	36	274
Tongues and sounds.....	cwt.	1,144	10,025
Halibut, caught and landed	cwt.	**262,726**	**3,553,969**
Marketed—			
Used fresh.. .	cwt.	262,434	4,533,650
Canned.... .	cases	41	410
Smoked .. .	cwt.	77	1,128
Total value marketed.		–	4,535,188
Flounders, Brill, Plaice, Etc., caught and landed	cwt.	**14,732**	**31,721**
Marketed fresh	cwt.	14,695	70,834
Skate, caught and landed..	cwt.	**1,448**	**3,163**
Marketed fresh .	cwt.	1,448	5,278
Soles, caught and landed .	cwt.	**2,374**	**12,189**
Marketed fresh .	cwt.	2,374	20,012

2. Quantity and Value of all Fish Caught and Marketed, Canada, during the year 1920—*con.*

Kind of Fish		Sea Fisheries	
		Quantity	Value
			$
Herring[1], caught and landed	cwt.	**1,936,479**	**1,656,334**
Marketed—			
Used fresh	cwt.	94,771	206,656
Boneless	cwt.	611	6,670
Canned	cases	33,769	200,368
Smoked	cwt.	148,304	590,132
Dry-salted	cwt.	512,168	872,107
Pickled	bbl.	47,038	308,725
Used as bait	bbl.	182,675	361,349
Fertilizer	bbl.	73,729	86,187
Total value marketed		–	2,632,194
Mackerel, caught and landed	cwt.	**142,347**	**783,304**
Marketed—			
Used fresh	cwt.	61,444	631,144
Canned	cases	1,869	12,535
Salted	bbl.	26,144	483,024
Total value marketed		–	1,126,703
Pilchards, caught and landed	cwt.	**88,050**	**77,027**
Marketed—			
Used fresh	cwt.	553	1,212
Canned	cases	91,929	503,937
Salted	bbl.	1,154	6,925
Used as bait	bbl.	9,937	28,191
Total value marketed		–	540,265
Sardines, caught and landed	bbl.	**196,649**	**284,848**
Marketed—			
Canned	cases	129,925	627,972
Sold fresh and salted	bbl.	164,101	232,296
Total value marketed		–	860,268
Perch[1], caught and landed	cwt.	**2,021**	**12,965**
Marketed fresh	cwt.	2,021	16,437
Alewives[1], caught and landed	cwt.	**64,552**	**121,040**
Marketed—			
Used fresh	cwt.	12,057	30,870
Salted	bbl.	17,143	155,809
Smoked	cwt.	2,499	20,198
Total value marketed		–	206,877
Bass[1], caught and landed	cwt.	**779**	**6,119**
Marketed fresh	cwt.	779	6,857
Salmon[1], caught and landed	cwt.	**1,282,023**	**8,192,011**
Marketed—			
Used fresh	cwt.	216,865	2,750,351
Canned	cases	1,188,599	12,419,034
Smoked	cwt.	2,667	23,131
Dry salted	cwt.	33,645	151,129
Mild cured	cwt.	8,924	205,734
Pickled	cwt.	526	5,011
Total value marketed		–	15,554,390
Shad[1], caught and landed	cwt.	**408**	**5,493**
Marketed fresh	cwt.	408	5,961
Smelts[1], caught and landed	cwt.	**58,056**	**517,568**
Marketed fresh	cwt.	58,056	788,617
Sturgeon[1], caught and landed	cwt.	**338**	**3,758**
Marketed fresh	cwt.	338	5,470
Trout,[1] caught and landed	cwt.	**884**	**15,032**
Marketed fresh	cwt.	884	15,771
Black Cod, caught and landed	cwt.	**25,783**	**119,626**
Marketed—			
Used fresh	cwt.	11,369	70,110
Green-salted	cwt.	42	409
Smoked	cwt.	7,164	110,683
Total value marketed			181,202

[1]See also Inland Fisheries

2. Quantity and Value of all Fish Caught and Marketed, Canada, during the year 1920—*con.*

Kind of Fish		Sea Fisheries	
		Quantity	Value
			$
Red Cod, etc., caught and landed	cwt.	**3,892**	**13,365**
Marketed—			
Used fresh	cwt.	3,816	19,574
Smoked	cwt.	38	442
Total value marketed		–	20,016
Albacore, caught and landed	cwt.	**1,542**	**9,615**
Marketed fresh	cwt.	1,542	10,587
Caplin, caught and landed	bbl.	**7,865**	**13,535**
Marketed fresh	bbl.	7,865	17,090
Eels[1], caught and landed	cwt.	**2,256**	**18,850**
Marketed fresh	cwt.	2,256	22,037
Greyfish,[2] caught and landed	cwt.	**15,000**	**4,550**
Octopus, caught and landed	cwt.	**394**	**2,646**
Marketed fresh	cwt.	394	4,082
Oulachans, caught and landed	cwt.	**2,115**	**8,575**
Marketed fresh	cwt.	2,115	9,096
Squid, caught and landed	bbl.	**4,950**	**12,188**
Marketed fresh	bbl.	4,950	12,280
Sword fish, caught and landed	cwt.	**3,351**	**41,216**
Marketed fresh	cwt.	3,351	51,104
Tom Cod, caught and landed	cwt.	**8,247**	**15,837**
Marketed fresh	cwt.	8,247	31,015
Mixed fish, caught and landed (Not including any kinds mentioned elsewhere).	cwt.	**1,591**	**1,796**
Marketed fresh	cwt.	1,591	2,116
Clams and Quahaugs, caught and landed	bbl.	**28,113**	**59,701**
Marketed—			
Used fresh	bbl.	8,986	33,383
Canned	cases	17,195	114,026
Total value marketed		–	147,409
Cockles, caught and landed	cwt.	**214**	**657**
Marketed fresh	cwt.	214	657
Crabs, caught and landed	cwt.	**10,660**	**33,135**
Marketed fresh	cwt.	10,660	58,263
Lobsters, caught and landed	cwt.	**399,985**	**4,557,149**
Marketed—			
In shell	cwt.	69,000	1,434,638
Canned	cases	163,299	5,687,484
Tomalley	cases	2,619	30,333
Total value marketed		–	7,152,455
Mussels, caught and landed	cwt.	**172**	**121**
Marketed fresh	cwt.	172	121
Oysters, caught and landed	bbl.	**14,526**	**126,894**
Marketed fresh	bbl.	14,526	146,863
Scallops, caught and landed	bbl.	**4,186**	**23,623**
Marketed shelled	gal.	8,131	28,848
Shrimps, caught and landed	cwt.	**563**	**6,735**
Marketed fresh	cwt.	563	13,536
Winkles, caught and landed	cwt.	**1,915**	**2,919**
Marketed fresh	cwt.	1,915	2,919
Fur Seals, caught and landed	no.	**1,058**	**20,542**
Skins marketed	no.	1,058	24,712
Hair Seals, caught and landed	no.	**4,891**	**14,116**
Skins marketed	no.	4,891	14,699
Oil	gal.	12,598	12,598
Total value marketed		–	27,297

[1]See also Inland Fisheries. [2]Grey fish is used in the production of fish oil and fertilizer.

2. Quantity and Value of all Fish Caught and Marketed, Canada, during the year 1920—*con.*

Kind of Fish		Sea Fisheries	
		Quantity	Value
			$
Whales, caught and landed	no.	**493**	**85,800**
Whalebone and meal..	tons	503	15,090
Whale fertilizer	tons	1,033	82,630
Whale oil	gal.	604,070	338,026
Total value marketed.	..	–	435,746
Porpoises[1], caught and landed	no.	**186**	**4,650**
Skins marketed	no.	186	2,790
Porpoise oil..	gal.	3,720	3,720
Total value marketed.	..	–	6,510
Fish oil marketed	gal.	342,686	279,885
Fish offal..	tons	2,076	7,515
Fish bones..	cwt.	9,100	3,579
Fish skins	cwt.	6,260	16,069
Fish fertilizer..	tons.	580	38,230
Total value Sea Fisheries—			
Caught and landed		–	**27,046,160**
Marketed		–	**43,602,059**
		Inland Fisheries	
Alewives[2], caught and landed	cwt.	**832**	**2,496**
Marketed—			
Used fresh..	cwt.	142	426
Salted..	bbl.	230	2,300
Total value marketed.	..	–	2,726
Bass[2], caught and landed	cwt.	**360**	**5,575**
Marketed fresh.	cwt.	360	5,666
Carp, caught and landed	cwt.	**11,900**	**51,611**
Marketed fresh	cwt.	11,900	52,637
Catfish, caught and landed	cwt.	**6,263**	**41,041**
Marketed fresh	cwt.	6,263	46,813
Eels[2], caught and landed..	cwt.	**7,885**	**71,110**
Marketed fresh	cwt.	7,885	84,675
Goldeyes, caught and landed	cwt.	**4,613**	**15,503**
Marketed—			
Used fresh..	cwt.	2,123	10,685
Smoked ..	cwt.	1,245	22,829
Total value marketed.			33,514
Herring[1], caught and landed.	cwt.	**136,211**	**677,920**
Marketed—			
Used fresh..	cwt.	126,673	758,178
Salted .	bbl	6,321	37,926
Total value marketed..		–	796,104
Maskinonge, caught and landed	cwt.	**4**	**78**
Marketed fresh	cwt.	4	78
Mixed Fish (greylings, bull heads, ouananiche, etc.), caught and landed	cwt.	**36,261**	**156,400**
Marketed fresh.	cwt.	36,261	160,298
Mullets, caught and landed	cwt.	**24,183**	**39,133**
Marketed fresh.	cwt.	24,183	62,116
Perch[2], caught and landed	cwt.	**18,955**	**153,119**
Marketed fresh	cwt.	18,955	190,248
Pickerel, caught and landed	cwt.	**61,883**	**469,190**
Marketed fresh	cwt.	61,883	631,483
Pickerel, blue, caught and landed	cwt.	**33,795**	**202,770**
Marketed fresh	cwt.	33,795	236,565
Pike, caught and landed	cwt.	**43,691**	**177,655**
Marketed fresh.	cwt.	43,691	264,896

[1]See also Inland Fisheries
[2]See also Sea Fisheries

2. Quantity and Value of all Fish Caught and Marketed, Canada, during the year 1920—*concluded*.

Kind of Fish		Inland Fisheries	
		Quantity	Value
			$
Porpoises[1], caught and landed	no.	**74**	**3,700**
Marketed fresh	no.	74	4,440
Salmon[1], caught and landed	cwt.	**2,706**	**41,061**
Marketed fresh	cwt.	2,706	41,580
Shad[1], caught and landed	cwt.	**1,048**	**10,454**
Marketed fresh	cwt.	1,048	12,704
Smelts[1], caught and landed	cwt	**62**	**620**
Marketed fresh	cwt.	62	744
Sturgeon[1], caught and landed	cwt.	**3,035**	**41,828**
Marketed fresh	cwt.	3,035	50,901
Sturgeon bladders	no.	438	219
Caviar	lb.	6,050	6,393
Total value marketed		–	57,513
Trout[1], caught and landed	cwt.	**54,879**	**537,167**
Marketed—			
Used fresh	cwt.	51,489	663,482
Salted	bbl	2,260	29,380
Total value marketed		–	692,862
Tullibee, caught and landed	cwt.	**38,588**	**205,117**
Marketed—			
Used fresh	cwt.	38,514	245,644
Smoked	cwt.	37	675
Total value marketed		–	246,319
Whitefish, caught and landed	cwt.	**181,764**	**1,315,932**
Marketed—			
Used fresh	cwt.	176,516	1,969,812
Salted	bbl	3,499	45,487
Total value marketed		–	2,015,299
Total value Inland Fisheries—Caught and landed		–	**4,219,510**
Marketed		–	**5,639,280**
Total value all Fisheries—Caught and landed		–	**31,265,670**
Marketed			**49,241,339**

[1]See also Sea Fisheries.

Agencies of Production:—Capital Equipment, Employees, Etc.

(1) *Primary Operations:—*

Capital.—The amount of capital represented in the vessels, boats, nets, traps, piers and wharves, freezers, etc., engaged in the primary operations of catching and landing the fish during 1920 was $29,893,213. This compares with totals of $31,493,152 in 1919 and $29,887,734 in 1918. (Table 3).

Employees.—The number of employees engaged in these operations in 1920 was 57,197, compared with 67,804 in 1919 and 68,516 in 1918. (Table 4).

(2) *Fish Canning and Curing Establishments:—*

Capital.—The amount of capital represented in fish canning and curing establishments in 1920 was $20,512,265, compared with $23,200,874 in 1919 and $30,334,129 in 1918. (Table 5).

Employees.—The number of persons employed in fish canning and curing establishments in 1920 was 18,499, compared with 18,356 in 1919 and 18,554 in 1918. (Table 6).

3. Capital Equipment—Primary Operations. Value of Fishing Vessels, Boats, Nets, Traps, Wharves, etc., employed in the Canadian Fisheries, 1918, 1919 and 1920.

Equipment	Sea Fisheries					
	1918		1919		1920	
	Number	Value	Number	Value	Number	Value
		$		$		$
Steam trawlers	2	140,000	10	1,075,000	9	850,000
Steam fishing vessels	39	1,049,293	27	551,000	31	688,800
Sailing and gasoline vessels	1,230	4,721,200	1,191	5,243,795	1,046	5,783,914
Boats (sail and row)	19,059	1,039,972	16,874	925,755	12,320	821,660
Boats (gasoline)	13,990	4,963,197	15,361	5,430,046	14,611	6,011,490
Carrying smacks	841	473,080	529	575,975	299	348,260
Gill nets, seines, trap and smelt nets, etc.	149,757	4,395,787	144,605	4,306,899	94,158	4,544,019
Weirs	792	1,154,820	808	1,008,140	1,054	774,380
Trawls	33,957	577,093	27,062	567,257	26,599	497,294
Hand lines	76,351	118,590	76,761	134,431	63,029	119,534
Crab traps	3,510	17,550	4,000	24,000	4,500	27,000
Oyster plant and equipment	1	20,500	1	20,500	1	19,360
Lobster traps	1,243,415	1,527,699	1,203,571	1,744,261	1,290,639	1,879,619
Fishing piers and wharves	2,581	2,091,407	2,773	2,031,570	2,617	1,375,650
Freezers and ice-houses	807	2,440,260	827	2,354,635	640	670,469
Small fish and smoke houses	8,767	1,353,025	8,092	1,312,948	7,524	1,095,605
Total value	–	**26,083,473**	–	**27,306,212**	–	**25,507,054**

3. Capital Equipment—Primary Operations. Value of Fishing Vessels, Boats, Nets, Traps, Wharves, etc., employed in the Canadian Fisheries, 1918, 1919 and 1920—*concluded.*

Equipment	Inland Fisheries					
	1918		1919		1920	
	Number	Value	Number	Value	Number	Value
		$		$		$
Steam vessels or tugs	146	880,395	145	898,365	142	993,357
Boats (sail and row)	4,020	156,677	2,675	171,212	2,280	148,968
Boats (gasoline)	916	426,712	995	484,107	1,012	529,621
Gill nets	–	1,082,700	–	1,119,721	–	1,246,746
Seines	613	31,649	542	35,362	426	34,305
Pound nets	1,359	625,914	1,205	780,245	1,108	777,107
Hoop nets	1,287	48,366	2,582	70,018	2,282	95,037
Lines	1,020	5,194	1,024	6,292	1,016	7,282
Weirs	976	55,737	396	47,080	321	41,058
Piers and wharves	315	102,773	316	146,350	341	127,818
Freezers and ice-houses	846	362,176	715	402,624	600	359,905
Small fish and smoke houses	140	24,555	139	24,615	93	23,170
Eel traps	100	200	10	30	175	525
Fish wheels	3	355	2	250	4	850
Spears	269	858	199	669	122	410
Total value	–	**3,804,261**	–	**4,186,910**	–	**4,386,159**

4. Employees in Primary Operations, 1918, 1919 and 1920

Employees.	Sea Fisheries			Inland Fisheries		
	1918	1919	1920	1918	1919	1920
	no.	no.	no.	no.	no.	no.
Men employed—						
On steam trawlers	34	200	206	–	–	–
On vessels	7,690	7,821	6,858	944	887	854
On boats	49,698	49,994	41,992	7,027	5,416	4,888
On carrying smacks	1,385	870	538	–	–	–
Fishing not in boats	–	–	–	1,738	2,616	1,861
Total	**58,807**	**58,885**	**49,594**	**9,709**	**8,919**	**7,603**

5. Capital Equipment[1]—Fish Canning and Curing

Description of Establishment	1918		1919		1920	
	Establishments	Value	Establishments	Value	Establishments	Value
	no.	$	no.	$	no.	$
Lobster canneries	534	2,977,188	520	2,031,409	578	2,426,920
Salmon canneries	81	15,619,857	76	13,961,100	67	10,072,356
Clam canneries	14	152,275	13	1,131,228	9	90,449
Sardine and other fish canneries	3	1,288,486	1	.....	8	750,204
Whale oil and fish oil factories	5	1,118,040	10	1,475,121	11	1,558,147
Fish curing establishments	302	9,178,283	308	4,602,016	267	5,614,189
Total	**939**	**30,334,129**	**928**	**23,200,874**	**940**	**20,512,265**

[1]Comprises value of land, buildings and fixtures, machinery and tools, materials in stock, fuel, cash accounts, and bills receivable.

6. Employees in Fish Canning and Curing Establishments, 1918, 1919 and 1920

Description of Establishment	1918			1919			1920		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	no.	no.	no.	no.	no.	no.	no.	no.	no.
Persons employed in—									
Lobster canneries	3,483	3,133	6,616	3,730	3,516	7,246	4,280	4,001	8,281
Salmon canneries	5,251	2,644	7,895	4,582	2,415	6,997	4,266	2,056	6,322
Clam canneries	110	144	254	339	384	723	57	105	162
Sardine and other fish canneries	182	343	525	.....	.....	.....	431	324	755
Whale oil and fish oil factories	211	1	212	377	8	385	229	7	236
Fish curing estsblishments	2,658	394	3,052	2,527	478	3,005	2,452	291	2,743
Total	**11,895**	**6,659**	**18,554**	**11,555**	**6,801**	**18,356**	**11,715**	**6,784**	**18,499**

Details of Fish Canning and Curing Establishments.

Of the 940 establishments in operation in 1920, 481 were operated by individuals, 204 by partnerships, 248 by joint stock companies and seven by co-operative associations. The classification of establishments according to average number of employees shows that 655 establishments are in the group of those employing an average of five persons and over, and 222 in the group of those employing less than five. Sixty-three establishments report that no persons were employed during 1920, the work in these establishments being performed by the operators themselves.

Employees and wages.—In fish canning and curing establishments, employees on salaries numbered 651; employees on wages 13,137; and contract and piece workers 4,711; a total of 18,499. The amount paid to all employees was $4,856,290, comprising $759,176 in salaries, $3,180,701 in wages, and $916,413 paid to contract and piece-workers. In the canning factories of British Columbia most of the labour is employed under contract, the contractor engaging and paying his own help, and being himself paid by the factory according to the quantity of fish packed. For these contract workers and for the piece-workers no statistics of employment, other than number so employed, and amounts paid to them, are available. Table 7 gives numbers of employees and salaries and wages under the three classifications for 1918, 1919 and 1920.

7. Employees in Fish Canning and Curing Establishments in 1918, 1919 and 1920—Number and Salaries and Wages

Year	Employees on Salaries		Employees on Wages		Contract and Piece Workers		Total of Employees and of Salaries and Wages	
	no.	$	no.	$	no.	$	no.	$
1918	615	699,681	12,558	2,866,761	5,381	1,073,149	18,554	4,639,591
1919	679	694,315	12,883	2,749,210	4,794	814,286	18,356	4,257,811
1920	651	759,176	13,137	3,180,701	4,711	916,413	18,499	4,856,290

Wage-earners by Months.—The following table gives the number of persons employed in the establishments for each month of 1920 with comparative statistics for 1918 and 1919.

8. Wage-earners[1] in Fish Canning and Curing Establishments—Number on Pay Roll on 15th of each Month, 1918, 1919 and 1920

Month	1918			1919			1920		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	no.	no.	no.	no.	no.	no.	no.	no.	no.
January	1,640	258	1,898	1,109	253	1,362	1,245	183	1,428
February	1,535	219	1,754	999	185	1,184	1,135	119	1,254
March	1,920	257	2,177	1,292	238	1,530	1,672	262	1,934
April	3,377	648	4,025	3,377	812	4,189	4,734	1,447	6,181
May	6,875	3,332	10,207	6,544	3,656	10,200	7,221	3,983	11,204
June	7,426	3,394	10,820	6,892	3,430	10,322	7,204	3,698	10,902
July	5,703	1,769	7,472	4,778	1,231	6,009	4,445	1,099	5,544
August	5,108	1,084	6,192	4,434	857	5,291	3,868	690	4,558
September	4,671	879	5,550	4,371	981	5,352	3,363	585	3,948
October	4,009	765	4,774	3,700	834	4,534	2,607	513	3,120
November	3,279	694	3,973	2,408	478	2,886	1,785	235	2,020
December	1,992	306	2,298	1,477	248	1,725	1,441	176	1,617

[1]Exclusive of contract and piece-workers.

Daily Wage.—In table 9 the wage-earners in establishments are classified for 1919 and 1920 according to the daily wage received. Comparison cannot be made with 1918 as for that year the data collected were for weekly wages.

9. Wage-earners[1] in Fish Canning and Curing Establishments, Classified by Daily Wages, 1919 and 1920

Daily Wage	Employees					
	1919			1920		
	Male	Female	Total	Male	Female	Total
	no.	no.	no.	no.	no	no.
Under $1	241	1,325	1,566	208	1,052	1,260
$1 but under $2	2,182	2,572	4,754	1,703	2,939	4,642
$2 but under $3	3,221	547	3,768	3,043	635	3,678
$3 but under $4	1,667	70	1,737	2,013	123	2,136
$4 but under $5	703	19	722	797	2	799
$5 and over	336	–	336	622	–	622
Total	**8,350**	**4,533**	**12,883**	**8,386**	**4,751**	**13,137**

[1]Exclusive of contract and piece-workers.

Time in Operation.—The classification of establishments according to time in operation during the year shows that 383 establishments operated less than 60 days; 304 from 60 to 119 days; 117 from 120 to 179 days; 66 from 180 to 239 days; and 70 establishments 240 days or over.

Fuel Used.—The total cost of fuel used during 1920 was $581,520. The chief items were coal, with a value of $344,863, and gasoline with a value of $106,664.

Power Employed.—The power used in fish canning and curing establishments in 1920 was furnished largely by gasoline and steam engines. Of the former there were 580, with 3,211 rated h.p., and of the latter 168 with 2,799 rated h.p. Electric motors numbered 58 with 882 rated h.p. and water wheels and turbines 51, with 950 rated h.p. The engines, motors, water wheels, turbines and unspecified totalled 872 units, the total rated horse power being 8,053. The number of boilers in use was 328.

Miscellaneous Expenses.—Included under this heading are rent of offices, works and machinery; cost of purchased power; insurance; taxes; royalties and use of patents; advertising and travelling expenses; ordinary repairs to buildings and machinery, and other sundry expenses. The total amount so expended in 1920 was $2,326,073.

Value of Materials Used.—The total value of materials used in the preparation of products of fish canning and curing establishments was $19,363,029, comprising $14,347,089 for fish, $456,013 for salt, $4,229,490 for containers, and $330,437 for other materials.

Value of Product.—The product of fish canning and curing establishments in 1920 was valued at $30,900,147. This total comprises $25,807,973, the value of fish canned, cured or otherwise prepared, and $5,092,174 the value of fish marketed for consumption fresh. The following table shows value of product of establishments for the years 1918, 1919 and 1920.

10. Value of Products of Fish Canning and Curing Establishments in 1918, 1919 and 1920

Description of Establishment	1918		1919		1920	
	Fish marketed for consumption fresh	Fish canned, cured or otherwise prepared	Fish marketed for consumption fresh	Fish canned, cured or otherwise prepared	Fish marketed for consumption fresh	Fish canned, cured or otherwise prepared
	$	$	$	$	$	$
Lobster canneries	642,820	3,510,640	495,636	5,304,681	552,727	6,329,861
Salmon canneries	148,715	15,315,299	1,620,866	14,751,031	156,843	13,433,007
Clam canneries...	34,973	207,635	182,519	1,121,312	–	131,772
Sardine and other fish canneries.	–	1,240,488			111,434	944,981
Whale oil and fish oil factories...	–	1,003,759	–	708,052	–	565,835
Fish curing establishments.	4,748,496	7,154,803	2,368,020	5,620,636	4,271,170	4,402,517
Total	**5,575,004**	**28,432,624**	**4,667,041**	**27,505,712**	**5,092,174**	**25,807,973**

Classification of Establishments According to Value of Product.—The statistics show that 363 establishments gave value of product at less than $5,000; 164 at from $5,000 to less than $10,000; 176 at from $10,000 to less than $20,000; 126 at from $20,000 to less than $50,000; and 111 at $50,000 or over. Comprising the last group are 62 salmon canneries, 17 lobster canneries, two other fish canneries, three whale oil or fish oil factories and 27 fish curing establishments. In a number of the canneries, fish curing operations were carried on previous to and after the canning seasons. Eighty-three of the lobster canneries, seven of the salmon canneries, two of the clam canneries and five of the sardine and other fish canneries showed a product in 1920 of cured fish, in addition to the canned product.

Review by Provinces

The following tables (11-15) show by provinces; the total value of the fisheries; the quantity caught and landed and the value marketed of the chief commercial fishes; the quantity and value of all fish caught and landed and marketed; the quantity of sea fish taken off shore; and the capital equipment.

11. Value of Fisheries by Provinces, 1916-1920, in order of value, 1920

Province	Value of Fisheries					
	1916	1917	1918	1919	1920	Increase or decrease, 1920 compared with 1919. Inc. + dec. –
	$	$	$	$	$	$
British Columbia	14,637,346	21,518,595	27,282,223	25,301,607	22,329,161	– 2,972,446
Nova Scotia...	10,092,902	14,468,319	15,143,066	15,171,929	12,742,659	2,429,270
New Brunswick..	5,656,859	6,143,088	6,298,990	4,979,574	4,423,745	– 555,829
Ontario	2,658,993	2,866,419	3,175,111	3,410,750	3,336,412	– 74,338
Quebec	2,991,624	3,414,378	4,568,773	4,258,731	2,592,382	– 1,666,349
Prince Edward Island	1,344,179	1,786,310	1,148,201	1,536,844	1,708,723	+ 171,879
Manitoba	1,390,002	1,543,288	1,830,435	1,031,117	1,249,607	+ 218,490
Alberta .	144,317	184,009	318,913	333,330	529,078	+ 195,748
Saskatchewan	231,946	320,238	447,012	475,797	296,472	– 179,325
Yukon Territory.	60,210	67,400	37,820	8,800	33,100	+ 24,300
Total . .	**39,208,378**	**52,312,044**	**60,250,544**	**56,508,479**	**49,241,339**	**– 7,267,140**

12. Quantity and Value of Chief Commercial Fishes by Provinces, 1916-1920

PRINCE EDWARD ISLAND

Kind of Fish		1916	1917	1918	1919	1920	Increase or decrease, 1920 compared with 1919. Inc. + dec. −
Lobsters	cwt.	111,289	124,103	49,307	64,936	83,194	+ 18,258
	$	967,610	1,241,456	576,154	1,070,211	1,381,534	+ 311,323
Smelts	cwt.	5,744	6,401	6,459	8,599	10,906	+ 2,307
	$	40,208	53,984	42,296	61,165	121,810	+ 60,645
Cod	cwt.	58,793	70,830	48,717	39,616	22,905	− 16,711
	$	146,419	260,754	202,398	150,534	67,321	− 83,213
Herring	cwt.	15,928	21,886	23,707	30,110	31,911	+ 1,801
	$	20,146	37,865	35,833	67,431	50,259	− 17,172
Mackerel	cwt.	8,457	3,767	11,822	11,788	5,880	− 5,908
	$	43,362	22,555	99,080	76,290	33,864	− 42,426
Oysters	bbl.	6,431	3,038	3,375	3,392	2,775	− 617
	$	46,946	22,207	29,444	32,112	25,325	− 6,787
Hake and Cask	cwt.	26,235	20,671	25,697	20,473	8,754	− 11,719
	$	50,817	62,803	98,475	58,583	18,225	− 40,358

NOVA SCOTIA

Cod	cwt.	992,794	1,227,360	1,127,438	1,598,843	1,417,457	− 181,386
	$	2,642,846	4,553,534	5,712,071	6,089,265	4,516,481	− 1,572,784
Lobsters	cwt.	241,400	219,273	148,871	192,545	213,935	+ 21,390
	$	3,210,520	3,071,171	2,221,931	2,976,477	4,016,553	+ 1,040,076
Haddock	cwt.	546,729	689,667	527,060	555,433	436,036	− 119,397
	$	1,617,879	2,866,220	2,679,405	2,005,515	1,502,042	− 503,473
Mackerel	cwt.	77,317	125,725	142,754	162,907	81,071	− 81,836
	$	483,000	973,324	1,420,927	1,432,760	726,148	− 706,612
Herring	cwt.	309,805	339,876	334,674	246,577	235,113	− 11,464
	$	494,478	841,404	1,107,000	612,870	538,754	− 74,116
Halibut	cwt.	18,832	24,877	19,361	31,885	23,580	− 8,305
	$	231,941	336,820	278,136	495,311	424,637	− 70,674
Hake and Cask	cwt.	243,491	220,452	151,239	112,951	97,320	− 15,631
	$	540,630	658,768	510,020	347,864	241,833	− 106,031
Pollock	cwt.	96,011	124,448	114,194	149,402	96,939	− 52,463
	$	191,481	339,280	407,047	449,399	226,862	− 222,537
Salmon	cwt.	8,550	10,285	8,500	4,533	3,361	− 1,172
	$	150,561	198,947	178,047	104,996	91,214	− 13,782

NEW BRUNSWICK

Lobsters	cwt.	99,455	106,701	42,904	56,480	64,346	+ 7,866
	$	1,048,940	1,095,474	491,396	886,418	1,090,686	+ 204,268
Sardines	bbl.	315,810	274,008	295,753	214,510	196,562	− 17,948
	$	1,481,085	1,908,900	2,320,428	829,894	859,598	+ 29,704
Herring	cwt.	539,339	188,144	247,317	277,193	446,547	+ 169,354
	$	728,086	406,514	544,006	517,108	609,381	+ 92,273
Smelts	cwt.	55,025	55,703	69,937	54,963	40,041	− 14,922
	$	715,112	834,415	801,244	611,839	565,279	− 46,560
Salmon	cwt.	17,791	15,983	17,452	9,668	11,477	+ 1,809
	$	268,744	242,950	342,911	181,316	275,737	+ 94,421
Cod	cwt.	200,560	158,995	169,564	161,005	86,382	− 74,623
	$	527,005	519,550	610,260	749,715	273,636	− 476,079
Alewives	cwt.	62,274	83,445	68,539	57,740	54,395	− 3,345
	$	90,796	165,841	215,092	195,352	180,431	− 14,921
Mackerel	cwt.	11,407	19,355	15,926	22,392	15,102	− 7,290
	$	134,308	228,417	208,119	267,606	142,235	− 125,371

12. Quantity and Value of Chief Commercial Fishes by Provinces, 1916-1920—*con.*

NEW BRUNSWICK—*con.*

Kind of Fish		1916	1917	1918	1919	1920	Increase or decrease, 1920 compared with 1919. Inc. + dec. −
Hake and Cusk	cwt.	115,727	78,959	65,428	110,145	69,334	− 40,811
	$	165,309	165,127	226,116	235,768	100,133	− 135,635
Clams and Quahaugs	cwt.	13,780	27,912	17,955	19,248	11,133	− 8,115
	$	88,606	102,036	73,249	65,563	73,721	+ 8,158
Oysters	bbl.	8,294	6,926	7,188	7,343	8,207	+ 864
	$	58,058	41,556	56,640	73,430	70,942	− 2,488
Pollock	cwt.	47,295	65,460	50,308	78,561	44,363	− 34,198
	$	77,275	146,915	167,785	152,865	68,240	− 84,625

QUEBEC

Cod	cwt.	710,713	758,270	816,675	759,982	421,860	− 338,122
	$	1,579,231	2,068,678	3,132,594	2,629,260	1,089,996	− 1,539,264
Lobsters	cwt.	28,754	24,794	23,014	31,845	38,510	+ 6,665
	$	280,984	246,164	241,623	405,237	663,682	+ 258,445
Mackerel	cwt.	58,894	18,220	26,279	32,790	40,294	+ 7,504
	$	263,986	109,058	209,085	259,193	224,456	− 34,737
Herring	cwt.	283,440	242,760	529,577	337,139	223,201	− 113,938
	$	271,352	222,342	287,606	345,534	213,169	− 132,365
Salmon	cwt.	15,302	13,532	11,139	5,807	4,927	− 880
	$	103,693	118,794	129,386	62,921	75,671	+ 12,750
Eels	cwt.	8,741	6,288	6,355	7,842	6,134	− 1,708
	$	49,716	51,782	40,354	93,318	63,447	− 29,871
Smelts	cwt.	686	1,921	2,509	2,104	1,872	− 232
	$	3,802	18,740	19,506	24,969	24,904	− 65
Caplin	bbl.	22,784	27,769	20,515	24,195	7,835	− 16,360
	$	22,784	41,449	29,955	82,930	17,060	− 65,870

ONTARIO

Whitefish	cwt.	60,711	49,498	61,587	66,404	69,786	+ 3,382
	$	516,290	474,602	599,316	861,289	884,481	+ 23,192
Herring	cwt.	106,872	201,801	200,473	118,099	134,594	+ 16,495
	$	526,976	992,909	1,002,359	694,267	788,604	+ 94,337
Trout	cwt.	78,116	62,829	79,075	62,917	51,380	− 11,537
	$	638,888	592,433	729,425	802,659	653,250	− 149,409
Pickerel (blue)	cwt.	−	5,647	8,133	23,917	33,795	+ 9,878
	$	−	56,547	81,326	167,419	236,565	+ 69,146
Pickerel or doré	cwt.	45,418	25,216	17,203	19,220	16,052	− 3,168
	$	454,187	252,232	172,034	259,470	208,676	− 50,794
Perch	cwt.	12,585	15,170	24,282	15,244	17,947	+ 2,703
	$	62,926	75,853	121,410	152,440	179,470	+ 27,030
Pike	cwt.	14,836	15,574	13,868	19,948	12,241	− 7,707
	$	118,690	124,590	110,945	139,636	85,687	− 53,949

MANITOBA

Whitefish	cwt.	50,339	52,419	71,280	57,009	43,358	− 13,651
	$	350,543	390,321	703,733	349,811	441,992	+ 92,181
Pickerel	cwt.	45,298	49,728	39,506	35,802	39,070	+ 3,268
	$	311,262	345,179	350,316	264,741	355,358	+ 90,617
Tullibee	cwt.	49,185	52,646	64,343	38,920	33,386	− 5,534
	$	245,925	263,230	263,856	186,260	201,844	+ 15,584

12. Quantity and Value of Chief Commercial Fishes by Provinces, 1916-1920—*con.*

MANITOBA—*concluded.*

Kind of Fish		1916	1917	1918	1919	1920	Increase or decrease, 1920 compared with 1919. Inc. + dec. −	
Pike	cwt.	41,289	42,013	36,445	30,905	25,535	−	5,370
	$	204,749	208,846	237,757	137,114	137,622	+	508
Mullets	cwt.	10,802	11,013	19,422	24,397	22,028	−	2,369
	$	21,604	22,026	58,083	44,991	49,514	+	4,523
Goldeyes	cwt.	6,466	7,982	5,163	3,245	4,593	+	1,348
	$	31,610	39,084	29,052	17,570	33,274	+	15,704
Sturgeon	cwt.	1,819	2,621	1,137	789	397	−	392
	$	20,506	51,080	26,116	10,462	11,516	+	1,054
SASKATCHEWAN								
Whitefish	cwt.	28,551	43,301	42,508	42,642	24,206	−	18,436
	$	126,758	197,920	341,849	369,220	212,869	−	156,351
Pickerel	cwt.	4,662	5,831	2,922	3,038	3,646	+	608
	$	24,883	28,314	22,407	26,877	31,926	+	5,049
Pike	cwt.	8,736	9,697	5,128	4,112	3,254	−	858
	$	41,732	45,916	32,214	30,817	23,459	−	7,358
Mullets	cwt.	−	−	4,989	2,436	2,155	−	281
	$	−	−	21,405	14,893	12,602	−	2,291
Trout	cwt.	2,799	3,696	2,510	1,821	912	−	909
	$	14,155	18,594	20,097	17,542	8,492	−	9,050
ALBERTA								
Whitefish	cwt.	21,452	29,792	29,006	30,644	43,941	+	13,297
	$	90,472	133,573	264,597	257,664	467,918	+	210,254
Pickerel	cwt.	3,076	5,239	1,632	2,872	2,461	−	411
	$	11,584	19,996	13,764	20,217	23,594	+	3,377
Trout	cwt.	984	322	569	1,743	1,930	+	187
	$	18,543	3,182	5,690	17,430	22,593	+	5,163
Pike	cwt.	4,892	7,421	3,986	2,748	2,096	−	652
	$	13,265	19,365	17,883	14,238	11,394	−	2,844
BRITISH COLUMBIA								
Salmon	cwt.	1,196,432	1,601,520	1,493,502	1,668,353	1,262,864	−	405,489
	$	10,343,503	16,828,783	17,207,245	17,537,166	15,129,348	−	2,407,818
Halibut	cwt.	123,062	113,529	186,229	210,777	238,770	+	27,993
	$	2,026,670	1,721,012	5,196,539	4,617,484	4,104,869	−	512,615
Herring	cwt.	496,030	487,241	636,921	567,868	1,001,357	+	433,489
	$	1,009,383	1,192,654	1,742,757	1,109,870	1,228,131	+	118,261
Pilchards	cwt.	−	1,363	72,723	65,624	88,050	+	22,426
	$	−	11,810	413,853	371,871	540,265	+	168,394
Cod	cwt.	63,371	87,532	44,272	47,324	34,102	−	13,222
	$	554,463	879,404	426,239	368,838	322,737	−	46,101
Black cod	cwt.	−[1]	−[1]	29,966	10,527	25,783	+	15,256
	$	−	−	285,034	116,580	181,202	+	64,622
Crabs	cwt	3,282	5,886	5,098	6,428	10,060	+	3,632
	$	32,002	48,424	54,660	55,102	57,963	+	2,861
Oysters	bbl.	1,562	1,789	1,449	2,379	1,718	−	661
	$	28,897	32,202	26,926	38,659	36,834	−	1,825
Clams and Quahnugs	bbl.	8,538	11,998	10,626	7,542	5,429	−	2,113
	$	63,845	84,000	48,200	47,754	33,363	−	14,391

[1]Included with Cod.

12. Quantity and Value of Chief Commercial Fishes by Provinces, 1916-1920—*concluded*

YUKON TERRITORY

Kind of Fish		1916	1917	1918	1919	1920	Increase or decrease, 1920 compared with 1919. Inc. + dec. −	
Salmon	cwt.	1,435	1,385	1,150	270	2,100	+	1,830
	$	14,350	20,775	11,500	3,250	24,000	+	20,750
Whitefish	cwt.	789	648	549	150	170	+	20
	$	19,725	19,440	16,670	1,800	4,200	+	2,400
Trout	cwt.	252	194	–	–	150	+	150
	$	7,560	6,790	–	–	3,700	+	3,700

13. Quantities and Values by Provinces of All Fish Caught and Marketed during the year 1920

Kind of Fish		Sea Fisheries									
		Prince Edward Island		Nova Scotia		New Brunswick[1]		Quebec[1]		British Columbia	
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
			$		$		$		$		$
Cod, caught and landed	cwt.	**22,905**	**50,684**	**1,417,457**	**3,863,902**	**86,382**	**191,491**	**421,860**	**894,005**	**34,102**	**232,749**
Marketed—											
Used fresh	cwt.	5,719	19,808	61,001	288,535	12,086	56,109	6,628	19,626	33,321	318,589
Green-salted	cwt.	5,810	30,692	108,409	612,239	12,751	73,042	40,856	216,100	14	100
Smoked fillets	cwt.	–	–	29,484	367,959	71	819	8,500	68,000	–	–
Smoked	cwt.	–	–	–	–	–	–	–	–	278	3,810
Dried	cwt.	1,819	13,719	324,801	2,885,130	16,342	138,320	101,814	772,301	–	–
Boneless	cwt.	216	3,102	24,112	325,980	261	4,926	941	9,969	17	238
Canned	cases	–	–	3,481	29,348	–	–	–	–	–	–
Liver oil, medicinal	gal.	–	–	7,024	7,290	25	20	4,000	4,000	–	–
Roe	cwt.	–	–	–	–	40	400	–	–	–	–
Total value marketed		–	67,321	–	4,516,481	–	273,636	–	1,089,996	–	322,737
Haddock, caught and landed	cwt.	**1,085**	**1,627**	**436,036**	**868,663**	**4,624**	**8,624**	–	–	–	–
Marketed—											
Used fresh	cwt.	340	1,530	104,938	443,104	2,222	11,013	–	–	–	–
Canned	cases	–	–	16,023	125,417	997	4,237	–	–	–	–
Boneless	cwt.	–	–	136	1,780	–	–	–	–	–	–
Smoked	cwt.	–	–	67,720	622,818	30	396	–	–	–	–
Green-salted	cwt.	149	724	25,237	73,481	47	235	–	–	–	–
Dried	cwt.	150	900	38,459	235,442	226	1,603	–	–	–	–
Total value marketed		–	3,154	–	1,502,042	–	17,484	–	–	–	–
Hake and Cusk, caught and landed	cwt.	**8,754**	**14,422**	**97,320**	**140,829**	**69,334**	**65,853**	–	–	**311**	**933**
Marketed—											
Used fresh	cwt.	95	237	2,367	5,301	1,116	4,764	–	–	11	55
Green-salted	cwt.	3,103	11,891	8,988	30,209	28,614	72,579	–	–	–	–
Smoked	cwt.	–	–	–	–	–	–	–	–	150	1,200
Smoked fillets	cwt.	–	–	2,606	33,385	–	–	–	–	–	–
Dried	cwt.	885	5,350	23,027	172,150	3,458	21,515	–	–	–	–
Boneless	cwt.	83	747	136	788	128	1,275	–	–	–	–
Total value marketed		–	18,225	–	241,833	–	100,133	–	–	–	1,255
Pollock, caught and landed	cwt.	–	–	**96,939**	**160,389**	**44,363**	**47,276**	–	–	–	–
Marketed—											
Used fresh	cwt.	–	–	6,435	20,649	5,525	6,172	–	–	–	–
Green-salted	cwt.	–	–	10,379	37,071	6,836	17,656	–	–	–	–
Smoked fillets	cwt.	–	–	2,630	34,055	–	–	–	–	–	–
Dried	cwt.	–	–	20,708	135,087	8,423	44,412	–	–	–	–
Total value marketed		–	–	–	226,862	–	68,240	–	–	–	–
Whiting, caught and landed	cwt.	–	–	–	–	–	–	–	–	**36**	**198**
Marketed fresh	cwt.	–	–	–	–	–	–	–	–	36	274
Tongues and Sounds											
Pickled or Dried	cwt.	11	249	831	6,799	165	1,847	137	1,130	–	–

[1]See also Inland Fisheries.

13. Quantities and Values by Provinces of All Fish Caught and Marketed during the year 1920—*con.*

Kind of Fish	Sea Fisheries									
	Prince Edward Island		Nova Scotia		New Brunswick[1]		Quebec[1]		British Columbia	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
		$		$		$		$		$
Halibut, caught and landed cwt.	–	–	**23,580**	**364,205**	**136**	**2,348**	**240**	**1,690**	**238,770**	**3,185,726**
Marketed—										
Used fresh cwt.	–	–	23,412	423,830	136	3,618	240	2,064	238,646	4,104,138
Canned cases	–	–	41	410	–	–	–	–	–	–
Smoked cwt.	–	–	36	397	–	–	–	–	41	731
Total value marketed	–	–	–	424,637	–	3,618	–	2,064	–	4,104,869
Flounders, Brill, Plaice, etc., caught and landed cwt.	–	–	**1,400**	**1,485**	**1,814**	**4,568**	**396**	**2,463**	**11,122**	**23,205**
Marketed fresh cwt.	–	–	1,363	4,745	1,814	8,036	396	2,705	11,122	55,348
Skate, caught and landed cwt.	–	–	**715**	**1,020**	**229**	**458**	–	–	**474**	**1,685**
Marketed fresh cwt.	–	–	745	1,687	229	894	–	–	474	2,697
Soles, caught and landed cwt.	–	–	–	–	–	–	–	–	**2,374**	**12,189**
Marketed fresh cwt.	–	–	–	–	–	–	–	–	2,374	20,01
Herring, caught and landed cwt.	**31,911**	**47,866**	**235,113**	**314,819**	**146,547**	**291,195**	**221,551**	**131,503**	**1,001,357**	**867,951**
Marketed—										
Used fresh cwt.	2,845	6,700	24,351	77,735	18,288	29,678	1,960	2,550	47,327	89,993
Boneless cwt.	–	–	–	–	448	4,480	–	–	163	2,190
Canned cases	–	–	3,826	23,226	6,397	35,683	3,560	17,800	19,986	123,659
Smoked cwt.	600	4,887	19,361	108,743	107,490	345,570	12,819	69,267	8,034	61,665
Dry-salted cwt.	–	–	–	–	–	–	–	–	512,168	872,107
Pickled bbl.	344	2,955	29,168	190,140	8,023	54,867	8,072	48,240	1,431	12,523
Used as bait bbl.	13,539	35,717	41,643	138,910	39,118	70,991	63,332	49,737	25,043	65,994
Fertilizer bbl.	–	–	–	–	53,154	68,112	20,575	18,075	–	–
Total value marketed	–	50,259	–	538,754	–	609,381	–	205,669	–	1,228,131
Mackerel, caught and landed cwt.	**5,880**	**22,545**	**81,071**	**512,561**	**15,102**	**73,648**	**40,294**	**174,550**	–	–
Marketed—										
Used fresh cwt.	3,030	16,862	42,395	467,645	14,674	139,747	1,345	6,890	–	–
Canned cases	628	4,036	452	3,765	–	–	789	4,734	–	–
Salted bbl.	828	12,966	12,401	254,738	174	2,488	12,741	212,832	–	–
Total value marketed	–	33,864	–	726,148	–	142,235	–	224,456	–	–
Pilchards, caught and landed cwt.	–	–	–	–	–	–	–	–	**88,050**	**77,097**
Marketed—										
Used fresh cwt.	–	–	–	–	–	–	–	–	553	1,212
Canned cases	–	–	–	–	–	–	–	–	91,929	503,937
Salted bbl.	–	–	–	–	–	–	–	–	1,154	6,925
Used as bait bbl.	–	–	–	–	–	–	–	–	9,937	28,191
Total value marketed	–	–	–	–	–	–	–	–	–	540,265
Sardines, caught and landed bbl.	–	–	–	–	**196,562**	**281,533**	**87**	**315**	–	–
Marketed—										
Canned cases	–	–	–	–	129,925	627,972	–	–	–	–
Sold fresh and salted bbl.	–	–	–	–	164,014	231,626	87	670	–	–
Total value marketed	–	–	–	–	–	859,598	–	670	–	–
Perch, caught and landed cwt.	–	–	–	–	–	–	–	–	**2,021**	**12,965**
Marketed fresh cwt.	–	–	–	–	–	–	–	–	2,021	16,437
Alewives, caught and landed cwt.	**369**	**553**	**10,620**	**20,883**	**53,563**	**99,604**	–	–	–	–
Marketed—										
Used fresh cwt.		–	4,848	13,898	7,209	16,972	–	–	–	–
Salted bbl.	123	984	1,700	11,489	15,320	143,336	–	–	–	–
Smoked cwt.			363	2,801	2,136	17,397	–	–	–	–
Total value marketed	–	984	–	28,188		177,705	–	–	–	–
Bass, caught and landed cwt.	–		**22**	**220**	**612**	**5,319**	–	–	**145**	**580**
Marketed fresh cwt.	–		22	280	612	5,779	–	–	145	798

[1]See also Inland Fisheries.

13. Quantities and Values by Provinces of All Fish Caught and Marketed during the year 1920—*con.*

Kind of Fish	Sea Fisheries									
	Priace Edward Island		Nova Scotia		New Brunswick[1]		Quebec[1]		British Columbia	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
		$		$		$		$		$
Salmon, caught and landed cwt.	–	–	**3,361**	**69,348**	**11,054**	**242,450**	**4,744**	**60,904**	**1,262,864**	**7,819,309**
Marketed—										
Used fresh cwt.	–	–	3,337	90,975	11,009	260,932	4,000	65,703	198,519	2,332,741
Canned cases	–	–	3	42	–	–	215	3,331	1,188,381	12,415,661
Smoked cwt.	–	–	7	197	–	–	–	–	2,660	22,934
Dry-salted cwt.	–	–	–	–	–	–	–	–	33,645	151,129
Mild cured cwt.	–	–	–	–	–	–	–	–	8,924	205,734
Pickled cwt.	–	–	–	–	–	–	392	3,862	134	1,149
Total value marketed	–	–	–	91,214	–	260,932	–	72,896	–	15,129,348
Shad, caught and landed cwt.	–	–	**12**	**214**	**375**	**5,111**	–	–	**21**	**168**
Marketed fresh cwt.	–	–	12	214	375	5,542	–	–	21	205
Smelts, caught and landed cwt.	**10,906**	**87,248**	**3,928**	**46,673**	**40,041**	**349,249**	**1,810**	**20,061**	**1,371**	**14,337**
Marketed fresh cwt.	10,906	121,810	3,928	61,432	40,041	565,279	1,810	24,160	1,371	15,936
Sturgeon, caught and landed cwt.	–	–	**15**	**228**	–	–	**180**	**900**	**143**	**2,630**
Marketed fresh cwt.	–	–	15	255	–	–	180	1,440	143	3,775
Trout, caught and landed cwt.	**52**	**520**	**573**	**11,610**	**92**	**1,518**	**167**	**1,384**	–	–
Marketed fresh cwt.	52	520	573	11,907	92	1,550	167	1,794	–	–
Black cod, caught and landed cwt.	–	–	–	–	–	–	–	–	**25,783**	**149,626**
Marketed—										
Used fresh cwt.	–	–	–	–	–	–	–	–	11,369	70,110
Green-salted cwt.	–	–	–	–	–	–	–	–	42	409
Smoked cwt.	–	–	–	–	–	–	–	–	7,164	110,683
Total value marketed	–	–	–	–	–	–	–	–	–	181,202
Red cod, etc., caught and and landed cwt.	–	–	–	–	–	–	–	–	**3,892**	**13,365**
Marketed—										
Used fresh cwt.	–	–	–	–	–	–	–	–	3,816	19,574
Smoked cwt.	–	–	–	–	–	–	–	–	38	442
Total value marketed	–	–	–	–	–	–	–	–	–	20,016
Albacore, caught and landed cwt.	–	–	**1,542**	**9,615**	–	–	–	–	–	–
Marketed fresh cwt.	–	–	1,542	10,587	–	–	–	–	–	–
Caplin, caught and landed bbl	–	–	–	–	**30**	**30**	**7,835**	**13,505**	–	–
Marketed fresh bbl.	–	–	–	–	30[3]	30[3]	7,835	17,060	–	–
Eels, caught and landed cwt.	**181**	**1,770**	**1,262**	**10,552**	**699**	**5,936**	**84**	**504**	**30**	**88**
Marketed fresh cwt.	181	2,132	1,262	11,844	699	7,227	84	672	30	162
Greyfish[2], caught and landed cwt.	–	–	–	–	–	–	–		**15,000**	**4,550**
Octopus, caught and landed cwt.	–	–	–	–	–	–	–	–	**394**	**2,646**
Marketed fresh cwt.	–	–	–	–	–	–	–	–	394	4,082
Oulachons, caught and landed cwt.	–	–	–	–	–	–	–	–	**2,115**	**8,575**
Marketed fresh cwt.	–	–	–	–	–	–	–	–	2,115	9,096
Squid, caught and landed bbl.	–	–	**1,716**	**5,220**	–	–	**3,204**	**6,918**	–	–
Marketed fresh bbl.	–	–	1,746	5,302	–		3,204	6,978	–	–
Swordfish, caught and landed cwt.	–	–	**3,351**	**41,246**	–	–	–	–	–	–
Marketed fresh cwt.	–	–	3,351	51,104	–	–	–	–	–	–

[1]See also Inland Fisheries.
[2]Grey fish is used in the production of fish oil and fertilizer.
[3]Used as fertilizer.

13. Quantities and Values by Provinces of All Fish Caught and Marketed during the year 1920—*con.*

Kind of Fish		Sea Fisheries									
		Prince Edward Island		Nova Scotia		New Brunswick[1]		Quebec[1]		British Columbia	
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
			$		$		$		$		$
Tom Cod caught and landed	cwt.	**6**	**24**	**70**	**130**	**8,152**	**15,626**	**4**	**12**	**15**	**15**
Marketed fresh	cwt.	6	24	70	154	8,152	30,757	4	20	15	60
Mixed fish, caught and landed (Not including any kinds mentioned elsewhere)	cwt.	–	–	**1,391**	**956**	–	–	**200**	**840**	–	–
Marketed fresh	cwt.	–	–	1,391	956	–	–	200	1,160	–	–
Clams and Quahaugs caught and landed	bbl.	**187**	**620**	**8,211**	**20,385**	**11,133**	**22,363**	**1,183**	**4,396**	**5,429**	**11,939**
Marketed—											
Used fresh	bbl.	90	450	5,791	19,296	1,493	5,775	1,183	4,499	429	3,363
Canned	cases	97	632	2,420	15,448	9,678	67,946	–	–	5,000	30,000
Total value marketed		–	1,082	–	34,744	–	73,721	–	4,499	–	33,363
Cockles, caught and landed	cwt.	–	–	–	–	**211**	**657**	–	–	–	–
Marketed fresh	cwt.	–	–	–	–	211	657	–	–	–	–
Crabs, caught and landed	cwt.	–	–	–	–	**600**	**200**	–	–	**10,060**	**32,935**
Marketed fresh	cwt.	–	–	–	–	600[2]	300[2]	–	–	10,060	57,963
Lobsters, caught and landed	cwt.	**83,194**	**703,921**	**213,935**	**2,768,777**	**64,346**	**683,585**	**38,510**	**400,863**	–	–
Marketed—											
In shell	cwt.	–	–	55,217	1,124,140	13,514	308,083	269	2,415	–	–
Canned	cases	40,322	1,381,474	79,253	2,866,729	24,532	781,373	19,192	657,908	–	–
Tomalley	cases	6	60	2,120	25,684	123	1,230	370	3,359	–	–
Total value marketed		–	1,381,534	–	4,016,553	–	1,090,686	–	663,682	–	–
Mussels, caught and landed	cwt.	–	–	**172**	**121**	–	–	–	–	–	–
Marketed fresh	cwt.	–	–	172	121	–	–	–	–	–	–
Oysters caught and landed	bbl.	**2,775**	**22,423**	**1,826**	**11,861**	**8,207**	**55,780**	–	–	**1,718**	**36,830**
Marketed fresh	bbl.	2,775	25,325	1,826	13,762	8,207	70,942	–	–	1,718	36,834
Scallops, caught and landed	bbl.	–	–	**4,186**	**23,623**	–	–	–	–	–	–
Marketed—Shelled	gal.	–	–	8,131	28,848	–	–	–	–	–	–
Shrimps, caught and landed	cwt.	–	–	–	–	–	–	–	–	**563**	**6,735**
Marketed fresh	cwt.	–	–	–	–	–	–	–	–	563	13,536
Winkles, caught and landed	cwt.	–	–	**1,885**	**2,850**	**30**	**69**	–	–	–	–
Marketed fresh	cwt.	–	–	1,885	2,850	30	69	–	–	–	–
Fur Seals, caught and landed	no.	–	–	–	–	–	–	–	–	**1,058**	**20,542**
Skins marketed	no.	–	–	–	–	–	–	–	–	1,058	24,712
Hair Seals, caught and landed	no.	–	–	**2,262**	**4,520**	–	–	**2,629**	**9,626**	–	–
Marketed—											
Skins	no.	–	–	2,262	4,520	–	–	2,629	10,179	–	–
Oil	gal.	–	–	6,829	6,829	–	–	5,769	5,769	–	–
Total value marketed		–	–	–	11,349	–	–	–	15,948	–	–
Whales, caught and landed	no.	–	–	–	–	–	–	–	–	**493**	**85,800**
Marketed—											
Whalebone and meal	tons	–	–	–	–	–	–	–	–	503	15,090
Whale fertilizer	tons	–	–	–	–	–	–	–	–	1,033	82,630
Whale oil	gal.	–	–	–	–	–	–	–	–	604,070	338,026
Total value marketed		–	–	–	–	–	–	–	–	–	435,746

[1]See also Inland Fisheries.
[2]Used as fertilizer.

13. Quantities and Values by Provinces of All Fish Caught and Marketed during the year 1920—*con.*

Kind of Fish	Sea Fisheries									
	Prince Edward Island		Nova Scotia		New Brunswick[1]		Quebec[1]		British Columbia	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
		$		$		$		$		$
Porpoises, caught and landed..... no.	–	–	–	–	–	–	**186**	**4,650**	–	–
Marketed—										
Skins . no.	–	–	–	–	–	–	186	2,790	–	–
Oil.. . .... . gal.	–	–	–	–	–	–	3,720	3,720	–	–
Total value marketed....	–	–	–	–	–	–	–	6,510	–	–
Fish oil..... . .. gal.	3,300	2,240	170,598	148,074	36,033	21,330	77,086	77,086	55,669	31,155
Fish offal..... . tons	–	–	915	3,311	1,139	2,742	–	–	22	1,462
Fish bones.. . . cwt.	–	–	8,590	3,332	510	247	–	–	–	–
Fish skins..... cwt.	–	–	6,032	15,745	161	197	67	127	–	–
Fish fertilizer. . tons	–	–	136	545	–	–	–	–	444	37,685
Total value Sea Fisheries—										
Caught and landed.	–	**954,226**	–	**9,276,956**	–	**2,457,491**	–	**1,732,089**	–	**12,625,398**
Marketed.....	–	**1,708,723**	–	**12,742,659**	–	**4,400,794**	–	**2,420,722**	–	**22,329,161**

[1]See also Inland Fisheries.

13. Quantities and Values by Provinces of All Fish Caught and Marketed during the year 1920—*con.*

Kind of Fish		Inland Fisheries					
		New Brunswick[1]		Quebec[1]		Ontario	
		Quantity	Value	Quantity.	Value	Quantity	Value
			$		$		$
Alewives, caught and landed	cwt.	**832**	**2,496**	–	–	–	–
Marketed—							
Used fresh	cwt.	142	426	–	–	–	–
Salted	bbl.	230	2,300	–	–	–	–
Total value marketed		–	2,726	–	–	–	–
Bass, caught and landed	cwt.	**5**	**75**	**355**	**5,500**	–	–
Marketed fresh	cwt.	5	75	355	5,591	–	–
Carp, caught and landed	cwt.	–	–	**813**	**7,263**	**11,087**	**44,348**
Marketed fresh	cwt.	–	–	813	8,289	11,087	44,348
Catfish, caught and landed	cwt.	–	–	**581**	**5,959**	**5,412**	**32,652**
Marketed fresh	cwt.	–	–	581	5,959	5,442	38,094
Eels, caught and landed	cwt.	**60**	**600**	**6,050**	**52,760**	**1,775**	**17,750**
Marketed fresh	cwt.	60	600	6,050	62,775	1,775	21,300
Herring, caught and landed	cwt.	–	–	**1,650**	**4,950**	**134,594**	**672,970**
Marketed—							
Used fresh	cwt.	–	–	1,650	7,500	125,113	750,678
Salted	bbl.	–	–	–	–	6,321	37,926
Total value marketed		–	–	–	7,500	–	788,604
Maskinonge, caught and landed	cwt.	–	–	**4**	**78**	–	–
Marketed fresh	cwt.	–	–	4	78	–	–
Mixed[1] Fish, caught and landed (greyling, bullheads, ouananiche, etc).	cwt.	–	–	**2,777**	**26,453**	**30,674**	**122,696**
Marketed fresh	cwt.	–	–	2,777	27,961	30,674	122,696
Perch, caught and landed	cwt.	–	–	**337**	**3,542**	**17,917**	**143,576**
Marketed fresh	cwt.	–	–	337	3,568	17,947	179,470
Pickerel, caught and landed	cwt.	**188**	**2,256**	**466**	**8,855**	**16,052**	**160,520**
Marketed fresh	cwt.	188	2,256	466	9,673	16,052	208,676
Pickerel, blue, caught and landed	cwt.	–	–	–	–	**33,795**	**202,770**
Marketed fresh	cwt.	–	–	–	–	33,795	236,565
Pike, caught and landed	cwt.	–	–	**565**	**6,646**	**12,241**	**61,205**
Marketed fresh	cwt.	–	–	565	6,734	12,241	85,687
Porpoises, caught and landed	no.	–	–	**74**	**3,700**	–	–
Marketed fresh	no.	–	–	74	4,440	–	–
Salmon, caught and landed	cwt.	**423**	**14,805**	**183**	**2,256**	–	–
Marketed fresh	cwt.	423	14,805	183	2,775	–	–
Shad, caught and landed	cwt.	–	–	**1,048**	**10,451**	–	–
Marketed fresh	cwt.	–	–	1,048	12,704	–	–
Smelts, caught and landed	cwt.	–	–	**62**	**620**	–	–
Marketed fresh	cwt.	–	–	62	744	–	–
Sturgeon, caught and landed	cwt.	**80**	**1,600**	**613**	**7,195**	**1,889**	**22,668**
Marketed—							
Used fresh	cwt.	80	1,600	613	9,010	1,889	28,335
Sturgeon bladders	no.	–	–	–	–	438	219
Caviar	lb.	106	249	–	–	5,744	5,744
Total value marketed		–	1,849	–	9,010	–	34,298
Trout, caught and landed	cwt.	–	–	**44**	**495**	**51,380**	**513,800**
Marketed—							
Used fresh	cwt.	–	–	44	660	47,990	623,870
Salted	bbl.	–	–	–	–	2,260	29,380
Total value marketed		–	–	–	660	–	653,250
Tullibee, caught and landed	cwt.	–	–	–	–	**4,327**	**34,616**
Marketed—							
Used fresh	cwt.	–	–	–	–	4,327	38,943
Smoked	cwt.	–	–	–	–	–	–
Total value marketed		–	–	–	–	–	38,943
Whitefish, caught and landed	cwt.	**32**	**640**	**271**	**2,699**	**69,786**	**697,860**
Marketed							
Used fresh	cwt.	32	640	271	3,199	64,538	838,994
Salted	bbl.	–	–	–	–	3,499	45,487
Total value marketed		–	640	–	3,199	–	884,481
Total value Inland Fisheries—							
Caught and landed		–	22,472	–	149,425	–	2,727,431
Marketed		–	22,951	–	171,660	–	3,336,412

[1]See also Sea Fisheries.

13. Quantities and Values by Provinces of All Fish Caught and Marketed during the year 1920—*concluded*

Kind of Fish		Inland Fisheries							
		Manitoba		Saskatchewan		Alberta		Yukon	
		Quantity	Value	Quantity.	Value	Quantity	Value	Quantity	Value
			$		$		$		$
Catfish, caught and landed	cwt.	**240**	**2,430**	–	–	–	–	–	–
Marketed fresh.. .	cwt.	240	2,760	–	–	–	–	–	–
Goldeyes, caught and landed	cwt.	**4,593**	**15,303**	**20**	**200**	–	–	–	–
Marketed—									
Used fresh. .	cwt.	2,103	10,445	20	240	–	–	–	–
Smoked... ..	cwt.	1,245	22,829	–	–	–	–	–	–
Total value marketed..		–	33,274	–	240	–	–	–	–
Mixed fish, caught and landed .	cwt.	**960**	**3,350**	**1,790**	**2,701**	–	–	**60**	**1,200**
Marketed fresh. .	cwt.	960	4,350	1,790	4,091	–	–	60	1,200
Mullets, caught and landed . .	cwt.	**22,028**	**32,951**	**2,155**	**6,182**	–	–	–	–
Marketed fresh.	cwt.	22,028	49,514	2,155	12,602	–	–	–	–
Perch, caught and landed....	cwt.	**671**	**6,001**	–	–	–	–	–	–
Marketed fresh..	cwt.	671	7,210	–	–	–	–	–	–
Pickerel, caught and landed	cwt.	**39,070**	**266,823**	**3,646**	**19,138**	**2,461**	**11,598**	–	–
Marketed fresh.. .	cwt.	39,070	355,358	3,646	31,926	2,461	23,594	–	–
Pike, caught and landed..	cwt.	**25,535**	**90,855**	**3,254**	**13,244**	**2,096**	**5,705**	–	–
Marketed fresh. .	cwt.	25,535	137,622	3,254	23,459	2,096	11,394	–	–
Salmon, caught and landed...	cwt.	–	–	–	–	–	–	**2,100**	**24,000**
Marketed fresh. .	cwt.	–	–	–	–	–	–	2,100	24,000
Sturgeon, caught and landed..	cwt.	**397**	**9,805**	**56**	**560**	–	–	–	–
Marketed, fresh ..	cwt.	397	11,116	56	840	–	–	–	–
Caviar. .	lb.	200	400	–	–	–	–	–	–
Total value marketed...		–	11,516	–	840	–	–	–	–
Trout, caught and landed	cwt.	**463**	**3,704**	**912**	**5,268**	**1,930**	**10,200**	**150**	**3,700**
Marketed fresh. ..	cwt.	463	4,167	912	8,492	1,930	22,593	150	3,700
Tullibee, caught and landed	cwt.	**33,386**	**167,250**	**248**	**1,178**	**627**	**2,103**	–	–
Marketed—									
Used fresh	cwt.	33,312	201,169	248	1,953	627	3,579	–	–
Smoked... .	cwt.	37	675	–	–	–	–	–	–
Total value marketed.. .		–	201,844	–	1,953	–	3,579	–	–
Whitefish, caught and landed....	cwt.	**43,358**	**280,906**	**24,206**	**127,646**	**43,941**	**201,981**	**170**	**4,200**
Marketed fresh. ..	cwt.	43,358	441,992	24,206	212,869	43,941	467,918	170	4,200
Total value Inland Fisheries—									
Caught and landed		–	**879,378**	–	**176,117**	–	**231,587**	–	**33,100**
Marketed...		–	**1,249,607**	–	**296,472**	–	**529,078**	–	**33,100**

14. Proportion of Catch of Sea Fish taken Offshore (by steam trawlers and vessels fishing on offshore grounds, remaining out more than two days) 1920

	Province and County or District	Cod		Haddock		Hake and Cusk	
		Total quantity caught	Proportion taken offshore	Total quantity caught	Proportion taken offshore	Total quantity caught	Proportion taken offshore
		cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
1	**Canada—Totals**	**1,982,706**	**1,040,513**	**441,745**	**233,650**	**175,719**	**24,689**
2	**Prince Edward Island—Totals**	**22,905**	**190**	**1,085**	–	**8,754**	–
3	Kings	6,338	190	1,085	–	6,172	–
4	Queens	11,096	–	–	–	–	–
5	Prince	5,471	–	–	–	2,582	–
6	**Nova Scotia—Totals**	**1,417,457**	**1,018,195**	**436,036**	**232,911**	**97,320**	**24,416**
7	Richmond	23,418	4,721	19,444	2,368	–	–
8	Cape Breton	28,547	–	5,407	–	–	–
9	Victoria	22,829	–	52,562	–	–	–
10	Inverness	74,647	39,629	67,189	56,395	1,769	477
11	Cumberland	115	–	16	–	–	–
12	Colchester	166	–	–	–	–	–
13	Pictou	1,003	–	–	–	416	–
14	Antigonish	1,528	–	582	–	2,400	–
15	Guysboro	56,334	30,000	68,153	38,000	778	–
16	Halifax	81,106	36,229	67,382	43,068	4,819	3,977
17	Hants	142	–	5	–	–	–
18	Lunenburg	869,985	828,165	83,055	78,450	1,930	1,480
19	Queens	24,455	10,000	8,731	7,000	3,628	3,200
20	Shelburne	79,263	–	16,419	–	3,754	–
21	Yarmouth	80,420	67,724	5,901	5,341	13,870	13,870
22	Digby	58,471	1,727	37,647	2,289	55,470	1,412
23	Annapolis	12,174	–	3,047	–	8,096	–
24	Kings	2,854	–	496	–	390	–
25	**New Brunswick—Totals**	**86,382**	**19,131**	**1,624**	**739**	**69,334**	**273**
26	Charlotte	29,032	–	3,084	–	59,734	–
27	St. John	2,200	–	355	–	7,500	–
28	Albert	–	–	–	–	–	–
29	Westmorland	–	–	–	–	–	–
30	Kent	340	200	20	–	980	–
31	Northumberland	1,095	660	12	12	18	18
32	Gloucester	52,315	17,771	1,153	727	827	255
33	Restigouche	1,400	500	–	–	275	–
34	**Quebec—Totals**	**421,860**	–	–	–	–	–
35	Bonaventure	20,144	–	–	–	–	–
36	Gaspé	146,659	–	–	–	–	–
37	Magdalen Islands	37,880	–	–	–	–	–
38	Saguenay	208,932	–	–	–	–	–
39	Rimouski	8,245	–	–	–	–	–
40	**British Columbia—Totals**	**34,102**	**2,997**	–	–	**311**	–
41	District I	17,745	2,381	–	–	–	–
42	District II	616	616	–	–	–	–
43	District III	15,741	–	–	–	311	–

14. Proportion of Catch of Sea Fish taken Offshore (by steam trawlers and vessels fishing on offshore grounds, remaining out more than two days) 1920

Pollock		Halibut		Flounders, Brill, Plaice, etc.		Skate		
Total quantity caught	Proportion taken offshore	Total quantity caught	Proportion taken offshore	Total quantity caught	Proportion taken offshore	Total quantity caught	Proportion taken offshore	
cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	
141,302	**18,806**	**262,726**	**249,588**	**14,732**	**11,198**	**1,448**	**571**	1
–	–	–	–	–	–	–	–	2
–	–	–	–	–	–	–	–	3
–	–	–	–	–	–	–	–	4
–	–	–	–	–	–	–	–	5
96,939	**18,806**	**23,580**	**12,860**	**1,400**	**891**	**745**	**476**	6
3,794	–	64	4	–	–	–	–	7
910	–	726	120	–	–	–	–	8
117	–	196	–	–	–	–	–	9
7,512	4,649	1,301	487	518	423	373	248	10
104	–	6	–	–	–	–	–	11
–	–	–	–	5	–	–	–	12
–	–	–	–	–	–	–	–	13
–	–	–	–	102	–	–	–	14
10,420	–	1,518	1,189	264	230	–	–	15
14,905	8,398	6,462	940	386	238	367	228	16
12	–	–	–	–	–	–	–	17
7,670	2,950	1,206	1,206	–	–	–	–	18
6,442	300	772	550	20	–	5	–	19
12,926	–	1,769	–	–	–	–	–	20
10,931	2,474	8,500	8,266	–	–	–	–	21
17,572	35	967	98	105	–	–	–	22
1,616	–	65	–	–	–	–	–	23
2,008	–	28	–	–	–	–	–	24
44,363	–	**136**	–	**1,814**	–	**229**	–	25
43,903	–	136	–	874	–	229	–	26
460	–	–	–	–	–	–	–	27
–	–	–	–	–	–	–	–	28
–	–	–	–	–	–	–	–	29
–	–	–	–	–	–	–	–	30
–	–	–	–	940	–	–	–	31
–	–	–	–	–	–	–	–	32
–	–	–	–	–	–	–	–	33
–	–	**240**	–	**396**	–	–	–	34
–	–	–	–	–	–	–	–	35
–	–	–	–	375	–	–	–	36
–	–	–	–	–	–	–	–	37
–	–	178	–	21	–	–	–	38
–	–	62	–	–	–	–	–	39
–	–	**238,770**	**236,728**	**11,122**	**10,307**	**474**	**95**	40
–	–	38,044	38,044	122	–	181	–	41
–	–	197,916	197,916	10,307	10,307	95	95	42
–	–	2,810	768	693	–	198	–	43

14. Proportion of Catch of Sea Fish taken Offshore (by steam trawlers and vessels fishing on offshore grounds, remaining out more than two days) 1920—*concluded*

	Province and County or District	Soles		Herring		Mackerel	
		Total quantity caught	Proportion takea offshore	Total quantity caught	Proportion taken offshore	Total quantity caught	Proportion taken offshore
		cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
1	**Canada—Totals**	**2,374**	**644**	**1,936,479**	**9,020**	**142,347**	**1,045**
2	**Prince Edward Island—Totals**	–	–	**31,911**	–	**5,880**	–
3	Kings	–	–	6,716	–	450	–
4	Queens	–	–	4,756	–	1,668	–
5	Prince	–	–	20,439	–	3,762	–
6	**Nova Scotia—Totals**	–	–	**235,113**	–	**81,071**	**80**
7	Richmond	–	–	3,417	–	12,318	–
8	Cape Breton	–	–	6,600	–	4,500	–
9	Victoria	–	–	6,163	–	497	–
10	Inverness	–	–	9,267	–	21,777	–
11	Cumberland	–	–	18,875	–	–	–
12	Colchester	–	–	111	–	–	–
13	Pictou	–	–	5,808	–	15	–
14	Antigonish	–	–	7,357	–	289	–
15	Guysboro	–	–	13,300	–	18,497	–
16	Halifax	–	–	50,234	–	7,547	80
17	Hants	–	–	218	–	–	–
18	Luneaburg	–	–	34,753	–	3,728	–
19	Queens	–	–	18,370	–	2,438	–
20	Shelburne	–	–	34,216	–	2,601	–
21	Yarmouth	–	–	7,555	–	6,461	–
22	Digby	–	–	6,565	–	28	–
23	Annapolis	–	–	6,024	–	111	–
24	Kings	–	–	6,280	–	264	–
25	**New Brunswick—Totals**	–	–	**446,547**	**9,020**	**15,102**	**965**
26	Charlotte	–	–	223,558	–	–	–
27	St. John	–	–	12,800	–	–	–
28	Albert	–	–	–	–	–	–
29	Westmorland	–	–	76,615	–	12	–
30	Kent	–	–	22,630	1,500	2,650	500
31	Northumberland	–	–	9,035	620	465	465
32	Gloucester	–	–	101,225	6,900	11,931	–
33	Restigouche	–	–	684	–	44	–
34	**Quebec—Totals**	–	–	**221,551**	–	**40,294**	–
35	Bonaventure	–	–	30,094	–	775	–
36	Gaspé	–	–	18,485	–	804	–
37	Magdalen Islands	–	–	162,680	–	38,700	–
38	Saguenay	–	–	2,487	–	15	–
39	Rimouski	–	–	7,805	–	–	–
40	**British Columbia—Totals**	**2,374**	**644**	**1,001,357**	–	–	–
41	District I	1,528	–	22,583	–	–	–
42	District II	644	644	28,580	–	–	–
43	District III	202	–	950,194	–	–	–

14. Proportion of Catch of Sea Fish taken Offshore (by steam trawlers and vessels fishing on offshore grounds, remaining out more than two days) 1920—*concluded*

Black Cod		Red Cod		Swordfish		Whales		
Total quantity caught	Proportion taken offshore	Total quantity caught	Proportion taken offshore	Total quantity caught	Proportion taken offshore	Total quantity caught	Proportion taken offshore	
cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	no.	no.	
25,783	**20,781**	**3,892**	**660**	**3,351**	**255**	**493**	**347**	1
–	–	–	–	–	–	–	–	2
–	–	–	–	–	–	–	–	3
–	–	–	–	–	–	–	–	4
–	–	–	–	–	–	–	–	5
–	–	–	–	**3,351**	**255**	–	–	6
–	–	–	–	350	–	–	–	7
–	–	–	–	2,186	–	–	–	8
–	–	–	–	67	–	–	–	9
–	–	–	–	24	–	–	–	10
–	–	–	–	–	–	–	–	11
–	–	–	–	–	–	–	–	12
–	–	–	–	–	–	–	–	13
–	–	–	–	–	–	–	–	14
–	–	–	–	479	195	–	–	15
–	–	–	–	80	–	–	–	16
–	–	–	–	–	–	–	–	17
–	–	–	–	–	–	–	–	18
–	–	–	–	18	13	–	–	19
–	–	–	–	100	–	–	–	20
–	–	–	–	47	47	–	–	21
–	–	–	–	–	–	–	–	22
–	–	–	–	–	–	–	–	23
–	–	–	–	–	–	–	–	24
–	–	–	–	–	–	–	–	25
–	–	–	–	–	–	–	–	26
–	–	–	–	–	–	–	–	27
–	–	–	–	–	–	–	–	28
–	–	–	–	–	–	–	–	29
–	–	–	–	–	–	–	–	30
–	–	–	–	–	–	–	–	31
–	–	–	–	–	–	–	–	32
–	–	–	–	–	–	–	–	33
–	–	–	–	–	–	–	–	34
–	–	–	–	–	–	–	–	35
–	–	–	–	–	–	–	–	36
–	–	–	–	–	–	–	–	37
–	–	–	–	–	–	–	–	38
–	–	–	–	–	–	–	–	39
25,783	**20,781**	**3,892**	**660**	–	–	**493**	**347**	40
–	–	–	–	–	–	–	–	41
14,863	14,863	660	660	–	–	347	347	42
1,763	1,720	2,453	–	–	–	146	–	43

15. Summary by Provinces of Capital Equipment,—Primary Operations, 1920

	In Primary Operations	Prince Edward Island		Nova Scotia	
		No.	Value	No.	Value
			$		$
1	Steam trawlers	–	–	5	585,000
2	Steam vessels	–	–	8	41,000
3	Sailing and gasoline vessels	11	9,300	480	3,096,992
4	Sail and row boats	10	610	3,976	165,615
5	Gasoline boats	1,425	324,100	5,401	1,291,200
6	Carrying smacks	8	2,800	162	87,360
7	Gillnets, seines, trap nets, etc.	4,116	56,393	54,232	1,187,845
8	Weirs	–	–	134	41,330
9	Trawls	312	9,260	13,961	273,538
10	Pound nets	–	–	–	–
11	Hoop nets	–	–	–	–
12	Hand lines	1,067	2,134	25,818	28,334
13	Lobster traps	293,936	420,903	631,132	933,712
14	Eel traps	–	–	–	–
15	Fishing piers and wharves	29	68,000	1,850	1,025,800
16	Freezers and ice houses	7	4,500	312	168,819
17	Small fish and smoke houses	474	23,350	4,574	467,325
	Total value	–	**921,350**	–	**9,393,870**

	In Primary Operations	Ontario		Manitoba	
		No.	Value	No.	Value
			$		$
1	Steam trawlers	–	–	–	–
2	Steam vessels	124	777,857	17	213,500
3	Sailing and gasoline vessels	–	–	–	–
4	Sail and row boats	1,088	64,666	303	59,750
5	Gasoline boats	803	444,206	11	6,200
6	Carrying smacks	–	–	–	–
7	Gillnets, seines, trap and smelt nets, etc.	5,533,545[1]	796,456	19,213	330,260
8	Trawls	–	–	–	–
9	Hand lines	642	6,163	20	110
10	Pound nets	1,080	775,435	–	–
11	Hoop nets	1,442	83,140	–	–
12	Dip or roll nets	29	255	–	–
13	Spears	122	410	–	–
14	Fish wheels	–	–	–	–
15	Crab traps	–	–	–	–
16	Oyster plant	–	–	–	–
17	Fishing piers and wharves	275	94,963	24	21,000
18	Freezers and ice houses	443	226,420	55	113,300
19	Small fish and smoke houses	–	–	38	19,000
	Total value	–	**3,269,971**	–	**763,120**

Summary by Provinces of Capital Equipment.—Fish Canning and Curing 1920.

	In Fish Canning and Curing	Prince Edward Island		Nova Scotia	
		No.	Value	No.	Value
			$		$
1	Lobster canneries	183	340,199	152	1,349,783
2	Clam canneries	2	4,100	2	326,509
3	Sardine and other fish canneries	1		4	
4	Salmon canneries	–	–	–	–
5	Whale oil and fish oil factories	–	–	2	2,277,108
6	Fish curing establishments	6	43,530	115	
	Total value	–	**387,829**	–	**3,953,400**

[1] For Ontario, gill nets and seines are shown in yards.

15. Summary by Provinces of Capital Equipment,—Primary Operations,—1920

New Brunswick						Quebec						
Sea Fisheries		Inland Fisheries		Total Fisheries		Sea Fisheries		Inland Fisheries		Total Fisheries		
No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	
	$		$		$		$		$		$	
–	–	–	–	–	–	–	–	–	–	–	–	1
2	5,300	–	–	2	5,300	–	–	–	–	–	–	2
291	262,800	–	–	291	262,800	8	15,500	–	–	8	15,500	3
3,411	94,266	237	5,015	3,648	99,281	1,438	160,500	427	13,304	1,865	173,804	4
1,844	670,450	9	2,400	1,853	672,850	2,570	963,900	81	22,765	2,651	986,665	5
57	86,600	–	–	57	86,600	4	3,500	–	–	4	3,500	6
19,730	781,561	832	13,505	20,562	795,066	9,888	499,840	347	12,362	10,235	512,202	7
608	718,550	–	–	608	718,550	312	14,500	321	41,058	633	55,558	8
2,016	48,237	–	–	2,016	48,237	716	23,878	–	–	716	23,878	9
–	–	–	–	–	–	–	–	24	872	24	872	10
–	–	–	–	–	–	–	–	810	11,597	810	11,597	11
10,589	10,406	–	–	10,589	10,406	18,732	38,883	338	919	19,070	39,802	12
237,900	284,587	–	–	237,900	284,587	127,671	240,417	–	–	127,671	240,417	13
–	–	175	525	175	525	–	–	–	–	–	–	14
447	137,600	–	–	447	137,600	289	142,750	–	–	289	142,750	15
89	217,800	–	–	89	217,800	227	64,600	41	5,525	268	70,125	16
888	228,200	–	–	888	228,200	1,549	291,930	16	2,100	1,565	294,030	17
–	**3,546,357**	–	**21,445**	–	**3,567,802**	–	**2,460,198**	–	**110,502**	–	**2,570,700**	

Saskatchewan		Alberta		British Columbia		Yukon		
No.	Value	No.	Value	No.	Value	No.	Value	
	$		$		$		$	
–	–	–	–	4	265,000	–	–	1
–	–	1	2,000	21	642,500	–	–	2
–	–	–	–	256	2,399,322	–	–	3
103	2,193	74	2,740	3,485	400,669	48	1,300	4
14	5,850	92	47,150	3,371	2,761,840	2	1,050	5
–	–	–	–	68	168,000	–	–	6
1,792	41,928	3,556	81,775	6,192	2,018,380	146	4,510	7
–	–	–	–	9,594	142,381	–	–	8
16	90	–	–	6,823	39,777	–	–	9
–	–	4	800	–	–	–	–	10
30	300	–	–	–	–	–	–	11
–	–	–	–	–	–	–	–	12
–	–	–	–	–	–	–	–	13
–	–	–	–	–	–	4	850	14
–	–	–	–	4,500	27,000	–	–	15
–	–	–	–	1	19,360	–	–	16
15	1,850	27	10,005	2	1,500	–	–	17
25	3,900	36	10,760	5	214,750	–	–	18
4	345	35	1,725	39	84,800	–	–	19
–	**56,456**	–	**156,955**	–	**9,185,279**	–	**7,710**	

Summary by Provinces of Capital Equipment.—Fish Canning and Curing. 1920

New Brunswick		Quebec		Manitoba		British Columbia		
No.	Value	No.	Value	No.	Value	No.	Value	
	$		$		$		$	
177	440,226	66	296,712	–	–	–	–	1
4		–	–	–	–	1		2
2	469,087	1	15,150	–	–	–	10,098,163	3
–	–	3		–	–	64		4
–	–	–	–	–	–	9	1,549,347	5
71	454,741	40	363,880	2	26,160	33	2,457,570	6
–	**1,364,054**	–	**675,742**	–	**26,160**	–	**14,105,080**	

Fishing Bounty.

Under the authority of "An Act to encourage the development of the Sea Fisheries and the building of Fishing Vessels," the sum of $160,000 is appropriated annually by the Department of Marine and Fisheries, and paid to fishermen of the eastern Maritime Provinces. The bounty is distributed under regulations made from time to time by the Governor in Council.

For the year 1920, payment was made on the following basis:—

To owners of vessels entitled to receive bounty, $1 per registered ton; payment to the owner of any one vessel not to exceed $80.

To vessel fishermen entitled to receive bounty, $7.60 each.

To owners of boats measuring not less than 13 feet keel, $1 per boat.

To boat fishermen entitled to receive bounty, $6.10 each.

There were 9,671 bounty claims received, and 9,664 paid. In the preceding year 13,068 claims were received, and 13,061 paid.

The total amount paid was $152,519.30, allocated as follows:—

To 612 vessels and their crews, $53,577.80.

To 9,052 boats and their crews, $98,941.50.

Part III, Table 2, shows in detail the payment of the bounty by counties for the year 1920.

Imports and Exports.

The value of fish and fish products imported into Canada during the fiscal year ended 31st March, 1921, was $4,292,455, and of fish and fish products exported $33,615,119. This is an increase in the value of the imports of $240,573 over the previous year, and a decrease in the value of the exports of $8,612,877. (See Part III Table 3, for imports and exports by kinds of fish and by countries.)

Historical Review.

The three tables following will afford a review of the fishing industry of Canada for the past several years. In the case of production, returns are given by provinces year by year back to 1870. In the case of the number and value of vessels, boats, etc., the review extends to 1880, and in the case of the number of employees to 1895.

16. Historical Review—(a) Total Value of the Fisheries in the Respective Provinces of Canada, from 1870 to 1920

Year	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	British Columbia	Manitoba, Saskatchewan, Alberta and Yukon	Total for Canada
	$	$	$	$	$	$	$	$
1870	Not known.	4,019,425	1,131,433	1,161,551	264,982	Not known.	Not known.	6,577,391
1871	Not known.	5,101,030	1,185,033	1,093,612	193,524	Not known.	Not known.	7,573,199
1872	Not known.	6,016,835	1,965,459	1,320,189	267,633	Not known.	Not known.	9,570,116
1873	207,595	6,577,085	2,285,662	1,391,564	293,091	Not known.	Not known.	10,754,997
1874	288,863	6,652,302	2,685,794	1,608,660	446,267	Not known.	Not known.	11,681,886
1875	298,927	5,573,851	2,427,654	1,596,759	453,194	Not known	Not known.	10,350,385
1876	494,967	6,029,050	1,953,389	2,097,668	437,229	104,697	Not known.	11,117,000
1877	763,036	5,527,858	2,133,237	2,560,147	438,223	583,433	Not known.	12,005,934
1878	840,344	6,131,600	2,305,790	2,664,055	348,122	925,767	Not known.	13,215,678
1879	1,402,301	5,752,937	2,554,722	2,820,395	367,133	631,766	Not known.	13,529,254
1880	1,675,089	6,291,061	2,744,447	2,631,556	444,491	713,335	Not known.	14,499,979
1881	1,955,290	6,214,782	2,930,904	2,751,962	509,903	1,454,321	Not known.	15,817,162
1882	1,855,687	7,131,418	3,192,339	1,976,516	825,457	1,842,675	Not known.	16,824,092
1883	1,272,468	7,689,374	3,185,674	2,138,997	1,027,033	1,644,646	Not known.	16,958,192
1884	1,085,619	8,763,779	3,730,454	1,694,561	1,133,724	1,358,267	Not known.	17,766,404
1885	1,293,430	8,283,922	4,005,431	1,719,460	1,342,692	1,078,038	Not known.	17,722,973
1886	1,141,991	8,415,362	4,180,227	1,741,382	1,435,998	1,577,348	186,980	18,679,288
1887	1,037,426	8,379,782	3,559,507	1,773,567	1,531,850	1,974,887	129,084	18,386,103
1888	876,862	7,817,030	2,941,863	1,860,012	1,839,869	1,902,195	180,677	17,418,508
1889	886,430	6,346,722	3,067,039	1,876,194	1,963,123	3,348,067	167,679	17,655,254
1890	1,041,109	6,636,444	2,699,055	1,615,119	2,009,637	3,481,432	232,104	17,714,900
1891	1,238,733	7,011,300	3,571,050	2,008,678	1,806,389	3,008,755	332,969	18,977,874
1892	1,179,856	6,340,724	3,203,922	2,236,732	2,042,198	2,849,483	1,088,254	18,941,169
1893	1,133,368	6,407,279	3,746,121	2,218,905	1,694,930	4,443,963	1,042,093	20,686,659
1894	1,119,738	6,547,387	4,351,526	2,303,386	1,659,968	3,950,478	787,087	20,719,570
1895	976,836	6,213,131	4,403,158	1,867,920	1,584,473	4,401,354	752,466	20,199,338
1896	976,126	6,070,895	4,799,433	2,025,754	1,605,674	4,183,999	745,543	20,407,424
1897	954,949	8,090,346	3,934,135	1,737,011	1,289,822	6,138,865	638,416	22,783,544
1898	1,070,202	7,226,034	3,849,357	1,761,440	1,433,632	3,713,101	613,355	19,667,121
1899	1,043,645	7,347,604	4,119,891	1,953,134	1,590,447	5,214,074	622,911	21,891,706
1900	1,059,193	7,809,152	3,769,742	1,989,279	1,333,294	4,878,820	718,159	21,557,639
1901	1,050,623	7,989,548	4,193,264	2,174,459	1,428,078	7,942,771	958,410	25,737,153
1902	887,024	7,351,753	3,912,514	2,059,175	1,265,706	5,284,824	1,198,437	21,959,433
1903	1,099,510	7,841,602	4,186,800	2,211,792	1,535,144	4,748,365	1,478,665	23,101,878
1904	1,077,546	7,287,099	4,671,084	1,751,397	1,793,229	5,219,107	1,716,977	23,516,439
1905	998,922	8,259,085	4,847,090	2,003,716	1,708,963	9,850,216	1,811,570	29,479,562
1906	1,168,939	7,799,160	4,905,225	2,175,035	1,734,856	7,003,347	1,492,923	26,279,485
1907	1,492,695	7,632,330	5,300,564	2,047,390	1,935,025	6,122,923	968,422	25,499,349
1908	1,378,624	8,009,838	4,754,298	1,881,817	2,100,078	6,465,038	861,392	25,451,085
1909	1,197,556	8,081,111	4,676,315	1,808,436	2,177,813	10,314,755	1,373,181	29,629,169
1910	1,153,708	10,119,243	4,134,144	1,692,475	2,026,121	9,163,235	1,676,507	29,965,433
1911	1,196,396	9,367,550	4,886,157	1,868,136	2,205,436	13,677,125	1,467,072	34,667,872
1912	1,379,905	7,384,055	4,264,054	1,988,241	2,842,878	14,455,488	1,074,843	33,389,464
1913	1,280,447	8,297,626	4,308,707	1,850,427	2,674,685	13,891,398	904,458	33,207,748
1914	1,261,666	7,730,191	4,940,083	1,924,430	2,755,291	11,515,086	1,137,884	31,264,631
1915	933,682	9,166,851	4,737,145	2,076,851	3,341,182	14,538,320	1,066,677	35,860,708
1916	1,344,179	10,092,902	5,656,859	2,991,624	2,658,993	14,637,346	1,826,475	39,208,378
1917	1,786,310	14,468,319	6,143,088	3,414,378	2,866,419	21,518,595	2,114,935	52,312,044
1918	1,148,201	15,143,066	6,298,990	4,568,773	3,175,111	27,282,223	2,634,180	60,250,544
1919	1,536,844	15,171,929	4,979,574	4,258,731	3,410,750	25,301,607	1,849,044	56,508,479
1920	1,708,723	12,742,659	4,423,745	2,592,382	3,336,412	22,329,161	2,108,257	49,241,339

16. Historical Review—(b) Number and Value of Vessels and Boats engaged in the Fisheries of Canada, together with the Value of Fishing Material used for the years 1880, 1885, 1890, 1895 and 1900 to 1920.

Year	Vessels			Boats		Value of Nets and Seines	Value[1] of other Fishing Material	Total Capital Invested
	Number	Tonnage	Value	Number	Value			
			$		$	$	$	$
1880	1,181	45,323	1,814,688	25,266	716,352	985,978	419,564	3,936,582
1885	1,177	48,728	2,021,633	28,472	852,257	1,219,284	2,604,285	6,697,459
1890	1,069	43,084	2,152,790	29,803	924,346	1,695,358	2,600,147	7,372,641
1895	1,121	37,829	2,318,290	34,268	1,014,057	1,713,190	4,208,311	9,253,848
1900	1,212	41,307	1,940,329	38,930	1,248,171	2,405,860	5,395,765	10,990,125
1901	1,231	40,358	2,417,680	38,186	1,212,297	2,312,187	5,549,136	11,491,300
1902	1,296	49,888	2,620,661	41,667	1,199,598	2,103,621	5,382,079	11,305,959
1903	1,343	42,712	2,755,150	40,943	1,338,003	2,305,444	5,842,857	12,241,454
1904	1,316	43,025	2,592,527	41,938	1,376,165	2,189,666	6,198,584	12,356,942
1905	1,384	41,640	2,813,834	41,463	1,373,337	2,310,508	6,383,218	12,880,897
1906	1,439	40,827	2,841,875	39,634	1,462,374	2,426,341	7,824,975	14,555,565
1907	1,390	36,902	2,748,234	38,711	1,437,196	2,266,722	8,374,440	14,826,592
1908	1,441	40,818	3,571,871	39,965	1,696,856	2,283,127	7,957,420	15,508,275
1909	1,750	37,662	3,303,121	41,170	1,855,629	2,572,820	9,626,362	17,357,932
1910	1,680	38,454	3,028,625	38,977	2,483,996	2,786,548	10,720,701	19,019,870
1911	1,648	–	3,502,928	36,761	2,695,650	2,453,191	12,281,135	20,932,904
1912	1,669	–	4,671,923	34,501	3,072,115	4,154,880	12,489,541	24,388,459
1913	1,992	–	4,445,259	37,686	3,483,178	3,423,110	15,761,486	27,464,033
1914	1,892	–	4,390,660	39,144	3,957,912	3,313,581	13,071,009	24,733,162
1915	1,984	–	4,594,504	38,536	4,345,954	3,544,087	13,371,030	25,855,575
1916	1,965	–	5,267,724	40,105	4,829,793	4,485,269	14,146,176	28,728,962
1917	1,533	–	6,268,946	42,689	5,770,464	5,347,497	29,756,218	47,143,125
1918	1,417	–	6,790,888	38,726	7,059,638	6,174,967	40,196,370	60,221,863
1919	1,373	–	7,768,160	36,434	7,470,095	6,312,245	33,026,526	54,577,026
1920	1,228	–	8,316,071	30,522	7,859,999	6,697,214	27,532,194	50,405,478

[1]Comprises fish canning and curing establishments, small fish and smoke houses, freezers and ice-houses, fishing piers nd wharves, lobster, salmon, and crab traps, weirs, trawls, and all other fishing material except "vessels," "boats," and nets and seines."

16. Historical Review—(c) Number of Persons employed in the Fishing Industry for the years 1895 and 1900 to 1920

Year	Number of Persons in Canneries and Fish houses	Number of Men in Vessels	Number of Men in Boats	Number of Men Fishing, not in Boats[1]	Total Number of Fishermen	Total Number of Persons in Fishing Industry
1895	13,030	9,804	61,530	–	71,334	84,364
1900	18,205	9,205	71,859	–	81,064	99,269
1901	15,315	9,148	69,142	–	78,290	93,605
1902	13,563	9,123	68,678	–	77,801	91,364
1903	14,018	9,304	69,830	–	79,134	93,152
1904	13,981	9,236	68,109	–	77,345	91,326
1905	14,037	9,366	73,505	–	82,871	96,908
1906	12,317	8,458	67,646	–	76,104	88,421
1907	11,442	8,089	63,165	–	71,254	82,696
1908	13,753	8,550	62,520	–	71,070	84,823
1909	21,694	7,931	60,732	–	68,663	90,357
1910	24,978	8,521	60,089	–	68,610	93,588
1911	25,206	9,056	56,870	–	65,926	91,132
1912	23,327	9,076	56,005	–	65,081	88,408
1913	26,893	10,525	61,251	–	71,776	98,669
1914	24,559	9,400	60,554	–	69,954	94,513
1915	27,320	9,541	65,321	–	74,862	102,182
1916	25,680	9,192	60,432	–	69,624	95,304
1917	22,732	8,946	62,700	744	72,390	95,122
1918	18,554	8,668	58,110	1,738	68,516	87,070
1919	18,356	8,908	56,280	2,616	67,804	86,160
1920	18,499	7,918	47,418	1,861	57,197	75,696

[1]Previous to 1917 included with "number of men in boats."

GENERAL TABLES

I. FISH CAUGHT AND MARKETED, 1920—QUANTITIES AND VALUES.

II. AGENCIES OF PRODUCTION, 1920—CAPITAL EQUIPMENT, EMPLOYEES, Etc.

Part 1. IN PRIMARY OPERATIONS.

Part 2. IN FISH CANNING AND CURING ESTABLISHMENTS.

(a) General Summary of Statistics.

(b) Capital Invested.

(c) Employees, and Salaries and Wages.

(d) Number of Wage-earners by Months.

(e) Classification of Wage-earners according to Daily Wages.

(f) Time in Operation and Hours Worked.

(g) Quantity and Value of Fuel Used.

(h) Power Employed.

(i) Character of Organization.

(j) Classification of Establishments According to Value of Product.

(k) Classification of Establishments According to Number of Employees.

III. SPECIAL TABLES.

(1) The Salmon Pack of British Columbia, 1910-1920.

(2) Fishing Bounties, 1920.

(3) Imports and Exports of Fish and Fish Products, 1920.

(4) Fish Landed in United States Atlantic Ports by Canadian Vessels, 1918-1920.

I. Fish Caught and Marketed, 1920

	Fishing Districts	Cod					Haddock			
		Caught and landed	Marketed				Caught and landed	Marketed		
			Used fresh	Green-salted	Dried	Boneless		Used fresh	Green-salted	Dried
	PRINCE EDWARD ISLAND	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
	Totals for Province—									
1	**Quantity**	**22,905**	**5,719**	**5,810**	**1,819**	**216**	**1,085**	**340**	**149**	**150**
2	**Value** $	**50,684**	**19,808**	**30,692**	**13,719**	**3,102**	**1,627**	**1,530**	**724**	**900**
	Kings County (all)—									
3	Total quantity	6,338	552	1,400	1,172	–	1,085	340	149	150
4	Total value $	15,845	2,760	8,280	9,421	–	1,627	1,530	724	900
	Queens County (all)—									
5	Total quantity	11,096	3,517	3,553	42	115	–	–	–	–
6	Total value $	22,192	11,459	18,865	336	1,890	–	–	–	–
	Prince County—									
7	Western portion: Baptist Point to and including Cascumpeque Bay	5,021	1,350	782	605	101	–	–	–	–
8	Eastern portion: East of Baptist Point and Cascumpeque Bay	450	300	75	–	–	–	–	–	–
9	Total quantity	5,471	1,650	857	605	101	–	–	–	–
10	Total value $	12,647	5,589	3,547	3,962	1,212	–	–	–	–

	Fishing Districts	Alewives		Smelts		Trout		Eels	
		Caught and landed	Marketed	Caught and landed	Marketed	Caught and landed	Marketed	Caught and landed	Marketed
			Salted		Used fresh		Used fresh		Used fresh
	PRINCE EDWARD ISLAND—coacluded.	cwt.	bbl.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
	Totals for Province—								
11	**Quantity**	**369**	**123**	**10,906**	**10,906**	**52**	**52**	**181**	**181**
12	**Value** $	**553**	**984**	**87,248**	**121,810**	**520**	**520**	**1,770**	**2,132**
	Kings County (all)—								
13	Total quantity	–	–	2,290	2,290	12	12	20	20
14	Total value $	–	–	18,320	22,900	120	120	160	200
	Queens County (all)—								
15	Total quantity	369	123	4,992	4,992	30	30	161	161
16	Total value $	553	984	39,936	59,904	300	300	1,610	1,932
	Priace county—								
17	Western portion: Baptist Poiat to and including								
18	Cascumpeque Bay	–	–	1,383	1,383	5	5	–	–
29	Eastern portion: East of Baptist Point and								
10	Cascumpeque Bay	–	–	2,241	2,241	5	5	–	–
	Total quantity	–	–	3,624	3,624	10	10	–	–
	Total value $	–	–	28,992	39,006	100	100	–	–

I. Fish Caught and Marketed, 1920

Hake and Cusk					Tongues and Sounds	Herring					Mackerel				
Caught and landed	Marketed				Marketed	Caught and landed	Marketed				Caught and landed	Marketed			
	Used fresh	Green salted	Dried	Boneless	Pickled or Dried		Used fresh	Smoked	Pickled	Used as bait		Used fresh	Canned	Salted	
cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	bbl.	bbl.	cwt.	cwt.	cases	bbl.	
8,754	**95**	**3,103**	**885**	**83**	**11**	**31,911**	**2,845**	**600**	**344**	**13,539**	**5,880**	**3,030**	**628**	**828**	1
14,422	**237**	**11,891**	**5,350**	**747**	**249**	**47,866**	**6,700**	**4,887**	**2,955**	**35,717**	**22,545**	**16,862**	**4,036**	**12,966**	2
6,172	–	2,593	400	–	5	6,716	1,920	600	195	1,628	450	60	–	131	3
9,258	–	10,022	2,400	–	125	10,074	4,425	4,887	1,465	4,884	2,250	450	–	2,670	4
–	–	–	–	–	–	4,756	475	–	60	2,050	1,668	776	–	371	5
–	–	–	–	–	–	7,134	950	–	600	6,150	8,340	5,160	–	5,854	6
2,582	95	510	485	83	6	10,117	50	–	89	4,900	3,480	1,912	628	326	7
–	–	–	–	–	–	10,322	400	–	–	4,961	282	282	–	–	8
2,582	95	510	485	83	6	20,439	450	–	89	9,861	3,762	2,194	628	326	9
5,164	237	1,869	2,950	747	124	30,658	1,325	–	890	24,683	11,955	11,252	4,036	4,442	10

Tom Cod		Clams and Quahaugs			Lobsters			Oysters		Fish Oil	
Caught and landed	Marketed	Caught and landed	Marketed		Caught and landed	Marketed		Caught and landed	Marketed	Marketed	
	Used fresh		Used fresh	Canned		Canned	Tomalley		Used fresh		
cwt.	cwt.	cwt.	bbl.	cases	cwt.	cases	cases	bbl.	bbl.	gal.	
6	**6**	**187**	**90**	**97**	**83,191**	**40,322**	**6**	**2,775**	**2,775**	**3,300**	11
24	**24**	**620**	**450**	**632**	**703,924**	**1,381,474**	**60**	**22,423**	**25,325**	**2,240**	12
–	–	88	–	88	33,695	16,485	–	20	20	2,500	13
–	–	154	–	572	269,560	555,454	–	160	200	2,000	14
–	–	–	–	–	16,009	7,818	–	2,163	2,163	800	15
–	–	–	–	–	160,090	280,626	–	19,467	21,630	240	16
–	–	9	–	9	19,063	8,933	6	485	485	–	17
6	6	90	90	–	14,427	7,086	–	107	107	–	18
6	6	99	90	9	33,490	16,019	6	592	592	–	19
24	24	466	450	60	274,274	545,394	60	2,796	3,495	–	20

I. Fish Caught and Marketed, 1920

	Fishing Districts	Cod							
		Caught and landed	Marketed						
			Used fresh	Green-salted	Smoked fillets	Dried	Bone-less	Canned	Cod liver oil medi-cinal
	Nova Scotia	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cases	gal.
1	**Totals for Province—Quantity**	**1,417,457**	**61,001**	**108,409**	**29,484**	**324,801**	**24,112**	**3,481**	**7,024**
2	**Value** $	**3,863,902**	**288,535**	**612,239**	**367,959**	**2,885,130**	**325,980**	**29,348**	**7,290**
	Richmond County—								
3	Inverness county line to St. Peter's canal, including Ile Madame	14,163	1,644	575	–	3,762	27	–	–
4	St. Peter's canal to Cape Breton county line	9,255	18	–	–	3,079	–	–	–
5	Total quantity	23,418	1,662	575	–	6,841	27	–	–
6	Total value $	43,000	3,361	4,600	–	48,067	546	–	–
	Cape Breton County—								
7	Richmond county line to White Point and head of East Bay	1,633	–	50	–	371	–	–	–
8	White Point to Bridgeport	11,523	1,041	1,245	–	2,664	–	–	–
9	Bridgeport and head of East Bay to Victoria county line	15,391	5,541	4,925	–	140	–	–	–
10	Total quantity	28,547	6,582	6,220	–	3,175	–	–	–
11	Total value $	67,485	30,828	37,073	–	28,944	–	–	–
	Victoria County—								
12	South of Barachois River	1,413	869	25	–	–	–	–	–
13	Barachois River to Green Cove	12,000	800	5,630	–	70	–	–	1,000
14	Green Cove to Inverness county line	9,416	–	4,591	62	50	–	–	–
15	Total quantity	22,829	1,669	10,246	62	120	–	–	1,000
16	Total value $	42,826	4,107	38,167	186	790	–	–	800
	Inverness County—								
17	North of Broad Cove, Scottsville and Gillander Mountain	28,881	198	9,519	–	1,951	853	–	–
18	Broad Cove, Scottsville and Gillander Mountain to Richmond county line	45,766	9,438	872	11,508	431	–	–	–
19	Total quantity	74,647	9,636	10,391	11,508	2,382	853	–	–
20	Total value $	144,717	48,970	61,851	151,199	16,676	11,778	–	–
	Cumberland County—								
21	New Brunswick line to Cape Cliff	–	–	–	–	–	–	–	–
22	Cape Cliff to Colchester county line	–	–	–	–	–	–	–	–
23	Bay of Fundy	115	30	8	–	23	–	–	–
24	Total quantity	115	30	8	–	23	–	–	–
25	Total value $	690	300	96	–	345	–	–	–
	Colchester County—								
26	Strait of Northumberland	–	–	–	–	–	–	–	–
27	Hants county line to Salmon River	–	–	–	–	–	–	–	–
28	Salmon River to Cumberland county line	166	37	65	–	–	–	–	–
29	Total quantity	166	37	65	–	–	–	–	–
30	Total value $	996	370	715	–	–	–	–	–
	Pictou County—								
31	Colchester county line to Pictou Harbour, including Pictou Island	996	–	–	–	50	282	–	–
32	East of Pictou Harbour to Antigonish county line	7	7	–	–	–	–	–	–
33	Total quantity	1,003	7	–	–	50	282	–	–
34	Total value $	4,054	70	–	–	425	4,230	–	–
	Antigonish County (all)								
35	Total quantity	1,528	357	146	–	316	–	–	–
36	Total value $	3,056	714	876	–	3,002	–	–	–

I. Fish Caught and Marketed, 1920

Haddock							
	Marketed						
Caught and landed	Used fresh	Canned	Smoked	Green-Salted	Dried	Boneless	
cwt.	cwt.	cases	cwt.	cwt.	cwt.	cwt.	
436,036	**104,938**	**16,023**	**67,720**	**25,237**	**38,459**	**136**	1
868,663	**443,104**	**125,417**	**622,818**	**73,481**	**235,442**	**1,780**	2
18,949	2,761	550	–	140	990	–	3
495	21	–	–	–	158	–	4
19,444	2,782	550	–	140	1,148	–	5
26,482	5,471	3,300	–	700	6,688	–	6
150	–	–	–	–	52	–	7
1,057	48	–	–	500	3	–	8
4,200	3,150	–	–	525	–	–	9
5,407	3,198	–	–	1,025	55	–	10
12,637	15,942	–	–	5,175	257	–	11
16	–	–	–	–	–	–	12
46,452	600	–	–	20,232	3,920	–	13
6,094	–	–	–	–	929	–	14
52,562	600	–	–	20,232	4,849	–	15
52,578	1,200	–	–	51,180	20,821	–	16
1,015	297	–	–	205	28	–	17
66,174	20,539	–	22,462	172	197	–	18
67,189	20,836	–	22,462	377	225	–	19
118,651	93,198	–	191,979	1,363	768	–	20
–	–	–	–	–	–	–	21
–	–	–	–	–	–	–	22
16	4	–	–	–	4	–	23
16	4	–	–	–	4	–	24
96	40	–	–	–	60	–	25
–	–	–	–	–	–	–	26
–	–	–	–	–	–	–	27
–	–	–	–	–	–	–	28
–	–	–	–	–	–	–	29
–	–	–	–	–	–	–	30
–	–	–	–	–	–	–	31
–	–	–	–	–	–	–	32
–	–	–	–	–	–	–	33
–	–	–	–	–	–	–	34
582	152	–	–	138	53	–	35
1,164	304	–	–	552	424	–	36

I. Fish Caught and Marketed, 1920

	Fishing Districts	Hake and Cusk					
		Caught and landed	Marketed				
			Used fresh	Green-salted	Smoked fillets	Dried	Boneless
	NOVA SCOTIA—con.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
1	**Totals for Province—Quantity**	**97,320**	**2,367**	**8,988**	**2,606**	**23,027**	**136**
2	**Value** $	**140,829**	**5,301**	**30,209**	**33,385**	**172,150**	**788**
	Richmond County—						
3	Inverness county line to St. Peter's canal, including Ile Madame	–	–	–	–	–	–
4	St. Peter's canal to Cape Breton county line	–	–	–	–	–	–
5	Total quantity	–	–	–	–	–	–
6	Total value $	–	–	–	–	–	–
	Cape Breton County—						
7	Richmond county line to White Point and head of East Bay	–	–	–	–	–	–
8	White Point to Bridgeport	–	–	–	–	–	–
9	Bridgeport and head of East Bay to Victoria county line	–	–	–	–	–	–
10	Total quantity	–	–	–	–	–	–
11	Total value $	–	–	–	–	–	–
	Victoria County—						
12	South of Barachois River	–	–	–	–	–	–
13	Barachois River to Green Cove	–	–	–	–	–	–
14	Green Cove to Inverness county line	–	–	–	–	–	–
15	Total quantity	–	–	–	–	–	–
16	Total value $	–	–	–	–	–	–
	Inverness County—						
17	North of Broad Cove, Scottsville and Gillander Mountain	1,182	–	579	–	8	–
18	Broad Cove, Scottsville and Gillander Mountain to Richmond county line	587	–	35	53	30	–
19	Total quantity	1,769	–	614	53	38	–
20	Total value $	1,769	–	1,857	639	220	–
	Cumberland County—						
21	New Brunswick line to Cape Cliff	–	–	–	–	–	–
22	Cape Cliff to Colchester county line	–	–	–	–	–	–
23	Bay of Fundy	–	–	–	–	–	–
24	Total quantity	–	–	–	–	–	–
25	Total value $	–	–	–	–	–	–
	Colchester County—						
26	Strait of Northumberland	–	–	–	–	–	–
27	Hants county line to Salmon River	–	–	–	–	–	–
28	Salmon River to Cumberland county line	–	–	–	–	–	–
29	Total quantity	–	–	–	–	–	–
30	Total value $	–	–	–	–	–	–
	Pictou County—						
31	Colchester county line to Pictou Harbour, including Pictou Island	68	–	4	–	20	–
32	East of Pictou Harbour to Antigonish county line	348	–	–	–	116	–
33	Total quantity	416	–	4	–	136	–
34	Total value $	586	–	32	–	1,506	–
	Antigonish County (all)—						
35	Total quantity	2,400	146	320	–	541	–
36	Total value $	2,400	146	960	–	3,787	–

I. Fish Caught and Marketed, 1920

Pollock					Tongues and Sounds	Halibut				
Caught and landed	Marketed				Marketed	Caught and landed	Marketed			
	Used fresh	Green-salted	Smoked fillets	Dried	Pickled or Dried		Used fresh	Smoked	Canned	
cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cases	
96,939	**6,435**	**10,379**	**2,630**	**20,708**	**831**	**23,580**	**23,412**	**36**	**41**	**1**
160,389	**20,649**	**37,071**	**34,055**	**135,087**	**6,799**	**364,205**	**423,830**	**397**	**410**	**2**
674	150	–	–	151	–	4	4	–	–	3
3,120	640	490	–	500	–	60	60	–	–	4
3,794	790	490	–	651	–	64	64	–	–	5
7,233	1,505	1,960	–	3,906	–	640	760	–	–	6
46	–	–	–	–	–	20	20	–	–	7
264	–	–	–	88	–	351	351	–	–	8
600	600	–	–	15	–	355	355	–	–	9
910	600	–	–	103	–	726	726	–	–	10
2,042	2,100	–	–	428	–	9,464	12,605	–	–	11
37	10	–	–	9	–	–	–	–	–	12
50	–	25	–	–	–	102	102	–	–	13
30	–	15	–	–	–	94	94	–	–	14
117	10	40	–	9	–	196	196	–	–	15
130	30	88	–	72	–	1,960	2,352	–	–	16
37	–	9	–	4	–	157	115	–	–	17
7,475	1,929	552	–	1,483	7	1,144	1,186	–	–	18
7,512	1,929	561	–	1,487	7	1,301	1,301	–	–	19
9,904	7,000	2,205	–	7,395	42	12,362	20,414	–	–	20
–	–	–	–	–	–	–	–	–	–	21
–	–	–	–	–	–	6	–	–	–	22
104	1	–	–	35	–	–	6	–	–	23
104	1	–	–	35	–	6	6	–	–	24
520	9	–	–	525	–	120	150	–	–	25
–	–	–	–	–	–	–	–	–	–	26
–	–	–	–	–	–	–	–	–	–	27
–	–	–	–	–	–	–	–	–	–	28
–	–	–	–	–	–	–	–	–	–	29
–	–	–	–	–	–	–	–	–	–	30
–	–	–	–	–	–	–	–	–	–	31
–	–	–	–	–	–	–	–	–	–	32
–	–	–	–	–	–	–	–	–	–	33
–	–	–	–	–	–	–	–	–	–	34
–	–	–	–	–	–	–	–	–	–	35
–	–		–	–	–	–	–	–	–	36

I. Fish Caught and Marketed, 1920

	Fishing Districts	Flounders, Brill, Plaice, etc.		Skate	
		Caught and landed	Marketed Used fresh	Caught and landed	Marketed Used fresh
	NOVA SCOTIA—con.	cwt.	cwt.	cwt.	cwt.
1	**Totals for Province—Quantity**	**1,400**	**1,363**	**745**	**745**
2	**Value** $	**1,485**	**4,745**	**1,020**	**1,687**
	Richmond County—				
3	Inverness county line to St. Peter's canal, including Ile Madame	–	–	–	–
4	St. Peter's canal to Cape Breton county line	–	–	–	–
5	Total quantity	–	–	–	–
6	Total value $	–	–	–	–
	Cape Breton County—				
7	Richmond county line to White Point and head of East Bay	–	–	–	–
8	White Point to Bridgeport	–	–	–	–
9	Bridgeport and head of East Bay to Victoria county line	–	–	–	–
10	Total quantity	–	–	–	–
11	Total value $	–	–	–	–
	Victoria County—				
12	South of Barachois River	–	–	–	–
13	Barachois River to Green Cove	–	–	–	–
14	Green Cove to Inverness county line	–	–	–	–
15	Total quantity	–	–	–	–
16	Total value $	–	–	–	–
	Inverness County—				
17	North of Broad Cove, Scottsville and Gillander Mountain	37	–	275	275
18	Broad Cove, Scottsville and Gillander Mountain to Richmond county line	481	526	98	98
9	Total quantity	518	526	373	373
0	Total value $	557	2,219	648	945
	Cumberland County—				
21	New Brunswick line to Cape Cliff	–	–	–	–
22	Cape Cliff to Colchester county line	–	–	–	–
23	Bay of Fundy	–	–	–	–
24	Total quantity	–	–	–	–
25	Total value $	–	–	–	–
	Colchester County—				
26	Strait of Northumberland	–	–	–	–
27	Hants county line to Salmon River	–	–	–	–
28	Salmon River to Cumberland county line	5	5	–	–
29	Total quantity	5	5	–	–
30	Total value $	5	7	–	–
	Pictou County—				
31	Colchester county line to Pictou Harbour, including Pictou Island	–	–	–	–
32	East of Pictou Harbour to Antigonish county line	–	–	–	–
33	Total quantity	–	–	–	–
34	Total value $	–	–	–	–
	Antigonish County (all)				
35	Total quantity	102	102	–	–
36	Total value $	102	153	–	–

I. Fish Caught and Marketed, 1920

Herring

Caught and landed	Marketed					
	Used fresh	Canned	Smoked	Pickled	Used as bait	
cwt.	cwt.	cases.	cwt.	bbl.	bbl.	
235,113	**24,351**	**3,826**	**19,361**	**29,168**	**41,643**	**1**
314,819	**77,735**	**23,226**	**108,743**	**190,110**	**138,910**	**2**
2,393	12	–	–	659	–	3
1,024	–	–	–	293	72	4
3,417	12	–	–	952	72	5
5,775	15	–	–	8,153	216	6
350	31	–	–	46	92	7
1,250	50	–	–	12	582	8
5,000	520	–	–	5	2,240	9
6,600	601	–	–	57	2,914	10
10,434	1,853	–	–	618	9,324	11
3,714	40	–	–	10	1,821	12
1,700	–	–	–	21	668	13
749	–	–	–	33	324	14
6,163	40	–	–	64	2,813	15
4,396	30	–	–	430	4,705	16
1,418	–	–	40	–	400	17
7,849	3,902	–	1,935	2	305	18
9,267	3,902	–	1,975	2	705	19
9,865	14,839	–	17,586	18	1,410	20
18,572	–	–	8,452	–	834	21
–	–	–	–	–	–	22
303	31	–	10	78	7	23
18,875	31	–	8,462	78	841	24
12,306	93	–	43,664	936	1,279	25
–	–	–	–	–	–	26
–	–	–	–	–	–	27
111	34	–	–	10	23	28
111	34	–	–	10	23	29
222	102	–	–	120	69	30
4,417	22	–	710	128	1,295	31
1,391	278	–	–	–	556	32
5,808	300	–	710	128	1,851	33
8,383	867	–	3,946	1,134	4,488	34
7,357	466	–	–	197	3,150	35
14,714	932	–	–	1,576	12,600	36

I. Fish Caught and Marketed, 1920

	Fishing Districts	Mackerel				Alewives			
		Caught and landed	Marketed			Caught and landed	Marketed		
			Used fresh	Canned	Salted		Used fresh	Salted	Smoked
	NOVA SCOTIA—con.	cwt.	cwt.	cases	bbl.	cwt.	cwt.	bbl.	cwt.
1	**Totals for Province—Quantity**	**81,071**	**42,395**	**452**	**12,401**	**10,620**	**4,818**	**1,700**	**363**
2	**Value** $	**512,561**	**467,645**	**3,765**	**254,738**	**20,883**	**13,898**	**11,489**	**2,801**
	Richmond County—								
3	Inverness county line to St. Peter's canal, including Ile Madame	9,234	–	–	2,167	35	–	–	–
4	St. Peter's canal to Cape Breton county line	3,084	–	–	1,028	21	–	7	–
5	Total quantity	12,318	–	–	3,195	56	–	7	–
6	Total value $	51,182	–	–	46,760	77	–	42	–
	Cape Breton County—								
7	Richmond county line to White Point and head of East Bay	1,971	–	–	647	–	–	–	–
8	White Point to Bridgeport	2,396	439	–	652	60	60	–	–
9	Bridgeport and head of East Bay to Victoria county line	133	133	–	10	–	–	–	–
10	Total quantity	4,500	572	–	1,309	60	60	–	–
11	Total value $	24,689	4,828	–	23,397	60	90	–	–
	Victoria County—								
12	South of Barachois River	22	–	–	–	–	–	–	–
13	Barachois River to Green Cove	383	50	–	149	–	–	–	–
14	Green Cove to Inverness county line	92	–	–	–	–	–	–	–
15	Total quantity	497	50	–	149	–	–	–	–
16	Total value $	1,783	200	–	1,724	–	–	–	–
	Inverness County—								
17	North of Broad Cove, Scottsville and Gillander Mountain	10,386	15	–	3,457	1,425	–	434	–
18	Broad Cove, Scottsville and Gillander Mouatain to Richmond county line	11,391	9,496	–	1,197	–	25	–	–
19	Total quantity	21,777	9,511	–	4,654	1,425	25	434	–
20	Total value $	115,107	87,289	–	128,265	1,425	77	2,761	–
	Cumberland County—								
21	New Brunswick line to Cape Cliff	–	–	–	–	1,167	–	389	–
22	Cape Cliff to Colchester county line	–	–	–	–	1,310	–	432	–
23	Bay of Fundy	–	–	–	–	–	–	–	–
24	Total quantity	–	–	–	–	2,477	–	821	–
25	Total value $	–	–	–	–	3,787	–	5,534	–
	Colchester County—								
26	Strait of Northumberland	–	–	–	–	–	–	–	–
27	Hunts county line to Salmon River	–	–	–	–	460	460	–	–
28	Salmon River to Cumberland county line	–	–	–	–	11	11	–	–
20	Total quantity	–	–	–	–	471	471	–	–
30	Total value $	–	–	–	–	1,172	1,873	–	–
	Pictou County—								
31	Colchester county line to Pictou Harbour, including Pictou Island	–	–	–	–	–	–	–	–
32	East of Pictou Harbour to Antigonish county line	15	15	–	–	–	–	–	–
33	Total quantity	15	15	–	–	–	–	–	–
34	Total value $	60	60	–	–	–	–	–	–
	Antigonish County (all)—								
35	Total quantity	289	76	–	71	163	76	29	–
36	Total value $	2,023	1,140	–	1,420	163	114	232	–

I. Fish Caught and Marketed, 1920

Bass.		Salmon				Shad		
Caught and landed	Marketed: Used fresh	Caught and landed	Marketed: Used fresh	Marketed: Canned	Marketed: Smoked	Caught and landed	Marketed: Used fresh	
cwt.	cwt.	cwt.	cwt.	cases	cwt.	cwt.	cwt.	
22	22	3,361	3,337	3	7	12	12	1
220	280	69,348	90,975	42	197	214	214	2
–	–	12	–	–	–	–	–	3
–	–	117	117	–	–	–	–	4
–	–	129	117	–	–	–	–	5
–	–	2,035	2,340	–	–	–	–	6
–	–	–	–	–	–	–	–	7
–	–	54	54	–	–	2	2	8
–	–	62	62	–	–	–	–	9
–	–	116	116	–	–	2	2	10
–	–	2,320	2,590	–	–	14	14	11
–	–	35	35	–	–	–	–	12
–	–	55	55	–	–	–	–	13
–	–	45	45	–	–	–	–	14
–	–	135	135	–	–	–	–	15
–	–	2,200	2,500	–	–	–	–	16
–	–	634	539	3	–	–	–	17
–	–	10	96	–	4	–	–	18
–	–	644	635	3	4	–	–	19
–	–	7,782	13,970	42	97	–	–	20
–	–	–	–	–	–	–	–	21
–	–	–	–	–	–	–	–	22
–	–	51	51	–	–	–	–	23
–	–	51	51	–	–	–	–	24
–	–	1,122	1,785	–	–	–	–	25
–	–	–	–	–	–	–	–	26
–	–	47	47	–	–	–	–	27
–	–	288	288	–	–	–	–	28
–	–	335	335	–	–	–	–	29
–	–	7,276	11,255	–	–	–	–	30
–	–	–	–	–	–	–	–	31
–	–	134	134	–	–	–	–	32
–	–	134	134	–	–	–	–	33
–	–	3,904	4,685	–	–	–	–	34
12	12	337	337	–	–	–	–	35
120	180	8,425	10,110	–	–	–	–	36

I. Fish Caught and Marketed, 1920

	Fishing Districts	Smelts		Sturgeon		Trout	
		Caught and landed	Marketed Used fresh	Caught and landed	Marketed Used fresh	Caught and landed	Marketed Used fresh
	NOVA SCOTIA—con.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
1	**Totals for Province—Quantity**	3,928	3,928	15	15	573	573
2	**Value** $	46,673	61,432	228	255	11,610	11,907
	Richmond County—						
	Inverness county line to St. Peter's canal, including						
3	Ile Madame	92	–	–	–	–	–
4	St. Peter's canal to Cape Breton county line	4	4	6	6	–	–
5	Total quantity	96	4	6	6	–	–
6	Total value $	631	36	42	54	–	–
	Cape Breton County—						
	Richmond county line to White Point and head of						
7	East Bay	69	69	–	–	–	–
8	White Point to Bridgeport	62	62	–	–	–	–
9	Bridgeport and head of East Bay to Victoria county line	20	20	–	–	–	–
10	Total quantity	151	151	–	–	–	–
11	Total value $	1,661	1,841	–	–	–	–
	Victoria County—						
12	South of Barachois River	42	42	–	–	6	6
13	Barachois River to Green Cove	–	–	–	–	–	–
14	Green Cove to Inverness county line	–	–	–	–	–	–
15	Total quantity	42	42	–	–	6	6
16	Total value $	420	420	–	–	60	60
	Inverness County—						
	North of Broad Cove, Scottsville and Gillander						
17	Mountain	6	6	–	–	–	–
	Broad Cove, Scottsville and Gillander Mountain						
18	to Richmond county line	276	360	–	–	–	–
19	Total quantity	282	366	–	–	–	–
20	Total value $	4,266	5,339	–	–	–	–
	Cumberland County—						
21	New Brunswick line to Cape Cliff	446	446	–	–	–	–
22	Cape Cliff to Colchester county line	95	95	–	–	–	–
23	Bay of Fundy	–	–	–	–	–	–
24	Total quantity	541	541	–	–	–	–
25	Total value $	4,840	8,788	–	–	–	–
	Colchester County—						
26	Strait of Northumberland	30	30	–	–	–	–
27	Hants county line to Salmon River	–	–	–	–	6	6
28	Salmon River to Cumberland county line	–	–	–	–	–	–
29	Total quantity	30	30	–	–	6	6
30	Total value $	120	240	–	–	90	120
	Pictou County—						
	Colchester county line to Pictou Harbour, includ-						
31	ing Pictou Island	577	577	–	–	–	–
32	East of Pictou Harbour to Antigonish county line	348	348	–	–	–	–
33	Total quantity	925	925	–	–	–	–
34	Total value $	8,197	11,984	–	–	–	–
	Antigonish County (all)—						
35	Total quantity	283	283	–	–	5	5
36	Total value $	4,245	5,660	–	–	75	100

I. Fish Caught and Marketed, 1920

Albacore		Eels		Squid		Swordfish		Tom Cod		
Caught and landed	Marketed Used fresh	Caught and landed	Marketed Used fresh	Caught and landed	Marketed Used as bait	Caught and landed	Marketed Used fresh	Caught and landed	Marketed Used fresh	
cwt.	cwt.	cwt.	cwt.	bbl.	bbl.	cwt.	cwt.	cwt.	cwt.	
1,542	**1,542**	**1,262**	**1,262**	**1,746**	**1,746**	**3,351**	**3,351**	**70**	**70**	1
9,615	**10,587**	**10,552**	**11,844**	**5,270**	**5,302**	**41,246**	**51,104**	**130**	**151**	2
–	–	–	–	–	–	290	40	–	–	3
–	–	–	–	–	–	60	150	–	–	4
–	–	–	–	–	–	350	190	–	–	5
–	–	–	–	–	–	3,630	2,122	–	–	6
–	–	–	–	–	–	50	50	–	–	7
–	–	–	–	–	–	2,001	2,001	–	–	8
–	–	–	–	–	–	135	135	–	–	9
–	–	–	–	–	–	2,186	2,186	–	–	10
–	–	–	–	–	–	28,050	34,125	–	–	11
–	–	32	32	–	–	–	–	–	–	12
–	–	–	–	4	4	40	40	–	–	13
–	–	25	25	3	3	27	27	–	–	14
–	–	57	57	7	7	67	67	–	–	15
–	–	470	470	24	24	536	670	–	–	16
4	4	–	–	148	148	22	26	4	4	17
–	–	171	154	–	–	2	47	–	–	18
4	4	171	154	148	148	24	73	4	4	19
20	26	684	926	185	185	134	1,039	20	20	20
–	–	–	–	–	–	–	–	–	–	21
–	–	–	–	–	–	–	–	–	–	22
–	–	–	–	–	–	–	–	–	–	23
–	–	–	–	–	–	–	–	–	–	24
–	–	–	–	–	–	–	–	–	–	25
–	–	–	–	–	–	–	–	–	–	26
–	–	–	–	–	–	–	–	–	–	27
–	–	–	–	–	–	–	–	–	–	28
–	–	–	–	–	–	–	–	–	–	29
–	–	–	–	–	–	–	–	–	–	30
–	–	–	–	–	–	–	–	–	–	31
–	–	16	16	–	–	–	–	–	–	32
–	–	16	16	–	–	–	–	–	–	33
–	–	187	205	—	–	–	–	–	–	34
–	–	49	49	32	32	–	–	–	–	35
–	–	245	392	128	160	–	–	–	–	36

I. Fish Caught and Marketed, 1920

	Fishing Districts	Mixed Fish		Clams and Quahaugs		
		Caught and landed	Marketed	Caught and landed	Marketed	
			Used fresh		Used fresh	Canned
	NOVA SCOTIA—con.	cwt.	cwt.	bbl.	bbl.	cases.
1	**Totals for Province—Quantity**	1,391	1,391	8,211	5,791	2,420
2	**Value** $	956	956	20,386	19,296	15,448
	Richmond County—					
3	Inverness county line to St. Peter's canal including Ile Madame	–	–	–	–	–
4	St. Peter's canal to Cape Breton county line	–	–	10	10	–
5	Total quantity	–	–	10	10	–
6	Total value $	–	–	30	60	–
	Cape Breton County—					
7	Richmond county line to White Point and head of East Bay	–	–	–	–	–
8	White Point to Bridgeport	–	–	–	–	–
9	Bridgeport and head of East Bay to Victoria county line	–	–	–	–	–
10	Total quantity	–	–	–	–	–
11	Total value $	–	–	–	–	–
	Victoria County—					
12	South of Barachois River	–	–	–	–	–
13	Barachois River to Green Cove	–	–	–	–	–
14	Green Cove to Inverness county line	–	–	–	–	–
15	Total quantity	–	–	–	–	–
16	Total value $	–	–	–	–	–
	Inverness County—					
17	North of Broad Cove, Scotsville and Gillander Mountain	–	–	–	–	–
18	Broad Cove, Scotsville, and Gillander Mountain to Richmond county line	84	84	–	–	–
19	Total quantity	84	84	–	–	–
20	Total value $	105	105	–	–	–
	Cumberland County—					
21	New Brunswick line to Cape Cliff	–	–	–	–	–
22	Cape Cliff to Colchester county line	–	–	–	–	–
23	Bay of Fundy	–	–	25	25	–
24	Total quantity	–	–	25	25	–
25	Total value $	–	–	125	175	–
	Colchester County—					
26	Strait of Northumberland	–	–	–	–	–
27	Hants county line to Salmon river	–	–	–	–	–
28	Salmon river to Cumberland county line	–	–	–	–	–
29	Total quantity	–	–	–	–	–
30	Total value $	–	–	–	–	–
	Pictou County—					
31	Colchester county line to Pictou Harbour, including Pictou Island	–	–	–	–	–
32	East of Pictou Harbour to Antigonish county line	–	–	–	–	–
33	Total quantity	–	–	–	–	–
34	Total value $	–	–	–	–	–
	Antigonish County (all)—					
35	Total quantity	–	–	–	–	–
36	Total value $	–	–	–	–	–

I. Fish Caught and Marketed, 1920

Lobsters				Mussels		Oysters		
Caugbt and landed	Marketed			Caught and landed	Marketed	Caught and landed	Marketed	
	Shipped in shell	Canned	Tomalley		Used fresh		Used fresh	
cwt.	cwt.	cases	cases	cwt.	cwt.	bbl.	bbl.	
213,935	55,217	79,253	2,120	172	172	1,826	1,826	1
2,768,777	1,121,110	2,866,729	25,684	121	121	11,861	13,762	2
3,743	716	1,086	12	–	–	–	–	3
7,626	1,016	2,525	22	–	–	–	–	4
11,369	1,762	3,611	34	–	–	–	–	5
131,242	22,463	126,498	401	–	–	–	–	6
3,862	–	1,887	44	–	–	–	–	7
5,803	40	2,769	21	–	–	–	–	8
11,200	–	5,718	60	–	–	–	–	9
20,865	40	10,374	125	–	–	–	–	10
234,094	640	363,916	1,193	–	–	–	–	11
1,853	–	731	125	–	–	125	125	12
2,115	–	1,238	–	–	–	–	–	13
3,506	–	1,768	–	–	–	–	–	14
7,474	–	3,737	125	–	–	125	125	15
76,593	–	129,815	875	–	–	625	625	16
8,244	577	3,783	46	–	–	–	–	17
7,938	–	3,972	48	–	–	600	600	18
16,182	577	7,755	94	–	–	600	600	19
171,856	6,930	281,302	1,989	–	–	3,350	3,350	20
4,742	43	2,362	150	–	–	90	90	21
3,301	–	1,668	202	–	–	133	133	22
102	102	–	–	–	–	–	–	23
8,145	145	4,030	352	–	–	223	223	24
72,374	2,809	133,884	2,513	–	–	1,712	1,897	25
–	–	–	–	–	–	20	20	26
–	–	–	–	–	–	–	–	27
–	–	–	–	–	–	–	–	28
–	–	–	–	–	–	20	20	29
–	–	–	–	–	–	140	140	30
14,603	–	7,407	401	–	–	93	93	31
4,313	–	2,101	98	–	–	–	–	32
18,916	–	9,508	499	–	–	93	93	33
189,160	–	331,272	6,178	–	–	744	930	34
10,160	–	5,080	91	–	–	415	415	35
111,760	–	196,019	635	–	–	2,490	3,320	36

I. Fish Caught and Marketed, 1920

	Fishing Districts	Scallops		Winkles	
		Caught and landed	Marketed Shelled	Caught and landed	Marketed Used fresh
	NOVA SCOTIA—con.	bbl.	gal.	cwt.	cwt.
1	**Totals for Province—Quantity**	4,186	8,131	1,885	1,885
2	**Value** $	23,623	28,848	2,850	2,850
	Richmond County—				
3	Inverness county line to St. Peter's canal, including Ile Madame	–	–	–	–
4	St. Peter's canal to Cape Breton county line	–	–	–	–
5	Total quantity	–	–	–	–
6	Total value $	–	–	–	–
	Cape Breton County—				
7	Richmond county line to White Point and head of East Bay	–	–	–	–
8	White Point to Bridgeport	–	–	–	–
9	Bridgeport and head of East Bay to Victoria county line	–	–	–	–
10	Total quantity	–	–	–	–
11	Total value $	–	–	–	–
	Victoria County—				
12	South of Barachois River	–	–	–	–
13	Barachois River to Green Cove	–	–	–	–
14	Green Cove to Inverness county line	–	–	–	–
15	Total quantity	–	–	–	–
16	Total value $	–	–	–	–
	Inverness County—				
17	North of Broad Cove, Scotsville and Gillander Mountain	–	–	–	–
18	Broad Cove, Scotsville and Gillander Mountain to Richmond county line	–	–	–	–
19	Total quantity	–	–	–	–
20	Total value $	–	–	–	–
	Cumberland County—				
21	New Brunswick line to Cape Cliff	–	–	–	–
22	Cape Cliff to Colchester county line	–	–	–	–
23	Bay of Fundy	3	6	–	–
24	Total quantity	3	6	–	–
25	Total value $	12	18	–	–
	Colchester County—				
26	Strait of Northumberland	–	–	–	–
27	Hants county line to Salmon River	–	–	–	–
28	Salmon River to Cumberland county line	–	–	–	–
29	Total quantity	–	–	–	–
30	Total value $	–	–	–	–
	Pictou County—				
31	Colchester county line to Pictou Harbour	–	–	–	–
32	East of Pictou Harbour to Antigonish county line	–	–	–	–
33	Total quantity	–	–	–	–
34	Total value $	–	–	–	–
	Antigonish County (all)—				
35	Total quantity	–	–	–	–
36	Total value $	–	–	–	–

I. Fish Caught and Marketed, 1920

Hair Seals			Fish Oil	Fish Fertilizer	Fish Offal	Fish Bones	Fish Skins	
	Marketed							
Caught and landed	Skins	Oil	Marketed	Marketed	Marketed	Marketed	Marketed	
no.	no.	gal.	gal.	tons	tons	cwt.	cwt.	
2,262	2,262	6,829	170,598	136	915	8,599	6,032	1
4,520	4,520	6,829	148,074	545	3,311	3,332	15,745	2
–	–	–	3,971	–	–	23	8	3
–	–	–	1,300	–	–	–	–	4
–	–	–	5,271	–	–	23	8	5
–	–	–	3,611	–	–	46	32	6
–	–	–	–	–	–	–	–	7
–	–	–	–	–	–	–	–	8
2,254	2,254	6,805	26,003	–	–	–	–	9
2,254	2,254	6,805	26,003	–	–	–	–	10
4,508	4,508	6,805	27,721	–	–	–	–	11
–	–	–	–	–	–	–	–	12
–	–	–	2,774	–	–	–	–	13
–	–	–	904	–	–	–	–	14
–	–	–	3,678	–	–	–	–	15
–	–	–	2,072	–	–	–	–	16
8	8	24	2,767	–	–	396	131	17
–	–	–	3,427	–	–	–	83	18
8	8	24	6,194	–	–	396	214	19
12	12	24	4,765	–	–	133	511	20
–	–	–	–	–	–	–	–	21
–	–	–	–	–	–	–	–	22
–	–	–	–	–	–	–	–	23
–	–	–	–	–	–	–	–	24
–	–	–	–	–	–	–	–	25
–	–	–	–	–	–	–	–	26
–	–	–	–	–	–	–	–	27
–	–	–	–	–	–	–	–	28
–	–	–	–	–	–	–	–	29
–	–	–	–	–	–	–	–	30
–	–	–	–	–	–	125	33	31
–	–	–	–	–	–	–	–	32
–	–	–	–	–	–	125	33	33
–		–	–	–	–	62	70	34
–	–	–	–	–	–	–	–	35
–	–	–	–	–	–	–	–	36

I. Fish Caught and Marketed, 1920

	Fishing Districts	Cod						
			Marketed					
		Caught and landed	Used fresh	Green-salted	Smoked fillets	Dried	Boneless	Canned
	Nova Scotia—con.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cases
	Guysborough County—							
1	Antigonisb county line to Cape Canso	38,110	12,971	7,222	2,639	348	578	–
2	Cnpe Cunso to New Harbour	3,789	317	1,201	–	76	133	–
3	New Harbour to Halifax county line	14,435	–	4,840	–	1,150	435	–
4	Total quantity	56,334	13,288	13,263	2,639	1,574	1,146	–
5	Total value $	112,668	64,532	83,886	32,504	10,738	15,632	–
	Halifax County—							
6	Guysborough County line to East Ship Harbour	18,209	480	2,252	–	3,775	840	–
7	West Ship Harbour to (but not including) Cole Harbour	20,604	400	2,263	–	5,018	–	–
8	Cole Harbour to Lunenburg county line	42,293	4,956	550	10,457	722	900	–
9	Total quantity	81,106	5,836	5,065	10,457	9,515	1,740	–
10	Total value $	183,359	27,973	26,973	125,484	68,802	25,260	–
	Hants County (all)—							
11	Total quantity	142	42	–	–	33	–	–
12	Total value $	555	242	–	–	396	–	–
	Lunenburg County—							
13	Halifax county line to Mahone Bay	73,095	360	–	–	24,245	–	–
14	Mahone Bay to Queens county line	796,890	–	3,870	–	258,050	5,000	–
15	Total quantity	869,985	360	3,870	–	282,295	5,000	–
16	Total value $	2,585,021	1,800	19,350	–	2,540,655	60,000	–
	Queens County—							
17	Lunenburg county line to Port Medway Harbour	3,232	–	–	–	289	120	–
18	Port Medway Harbour to Shelburne county line	21,223	7,403	4,980	359	370	1,247	–
19	Total quantity	24,455	7,403	4,980	359	659	1,367	–
20	Total value $	65,829	37,015	33,095	3,590	5,317	20,354	–
	Shelburne County—							
21	Queens county line to Negro Hnrbour	46,958	6,960	9,297	3,550	2,760	829	–
22	Negro Harbour (inclusive) to Yarmouth county line	32,305	–	9,283	–	137	3,569	1,626
23	Total quantity	79,263	6,960	18,580	3,550	2,897	4,398	1,626
24	Total value $	210,236	36,627	98,659	42,600	24,418	58,601	13,697
	Yarmouth County (all)—							
25	Total quantity	80,420	4,612	21,957	182	5,958	5,091	–
26	Total value $	192,089	20,879	129,926	2,352	53,699	67,496	–
	Digby County—							
27	Yarmouth county line to Weymouth	10,047	–	1,332	–	–	1,596	–
28	Weymouth to Annapolis county line, including Digby Neck	48,424	1,378	11,711	727	4,462	2,588	1,855
29	Total quantity	58,471	1,378	13,043	727	4,462	4,184	1,855
30	Total value $	165,704	7,129	76,972	10,044	43,298	61,723	15,651
	Annapolis County (all)—							
31	Total quantity	12,174	634	–	–	3,719	24	–
32	Total value $	30,201	1,586	–	–	29,392	360	–
	Kings County—							
33	Annapolis county line to Cunard	2,854	508	–	–	782	–	–
34	Cunard to Hants county line	–	–	–	–	–	–	–
35	Total quantity	2,854	508	–	–	782	–	–
36	Total value $	11,416	2,032	–	–	10,166	–	–

I. Fish Caught and Marketed, 1920

	Haddock							
		Marketed						
Cod liver oil, medicinal	Caught and landed	Used fresh	Canned	Smoked	Green-salted	Dried	Boneless	
gal.	cwt.	cwt.	cases	cwt.	cwt.	cwt.	cwt.	
4,274	64,081	18,304	13,429	11,645	100	267	–	1
–	2,334	1,177	110	225	30	189	–	2
–	1,738	–	–	–	269	400	–	3
4,274	68,153	19,481	13,539	11,870	399	856	–	4
5,090	136,306	90,497	108,372	113,469	1,480	4,903	–	5
–	800	–	–	32	–	268	–	6
–	900	–	–	–	–	309	–	7
–	65,682	21,285	–	19,425	1,380	929	–	8
–	67,382	21,285	–	19,457	1,380	1,506	–	9
–	134,764	82,576	–	174,942	6,900	11,081	–	10
–	5	–	–	–	–	2	–	11
–	12	–	–	–	–	20	–	12
–	5,730	105	–	–	–	1,875	–	13
–	77,325	–	–	–	280	25,589	–	14
–	83,055	105	–	–	280	27,464	–	15
–	178,852	420	–	–	840	177,000	–	16
–	10	–	–	–	–	–	–	17
–	8,721	1,436	–	3,610	–	25	–	18
–	8,731	1,436	–	3,610	–	25	–	19
–	26,193	7,180	–	36,100	–	75	–	20
1,750	11,487	12,131	–	1,750	–	462	–	21
–	4,932	–	–	–	655	40	–	22
1,750	16,419	12,131	–	1,750	655	502	–	23
1,400	57,103	55,786	–	17,341	3,146	2,780	–	24
–	5,901	3,518	–	655	191	851	100	25
–	16,760	16,921	–	6,144	715	5,036	1,300	26
–	4,281	1,399	406	40	–	–	24	27
–	33,366	14,728	1,528	7,876	420	832	12	28
–	37,647	16,127	1,934	7,916	420	832	36	29
–	97,860	64,321	13,745	82,843	1,430	4,859	480	30
–	3,047	2,787	–	–	–	87	–	31
–	7,717	7,760	–	–	–	670	–	32
–	496	496	–	–	–	–	–	33
–	–	–	–	–	–	–	–	34
–	496	496	–	–	–	–	–	35
–	1,488	1,488	–	–	–	–	–	36

I. Fish Caught and Marketed, 1920

	Fishing Districts	Hake and Cusk					
		Caught and landed	Marketed				
			Used fresh	Green-salted	Smoked fillets	Dried	Boneless
	Nova Scotia—con.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
	Guysborough County—						
1	Antigonish county line to Cape Canso	660	–	–	210	10	–
2	Cape Canso to New Harbour	100	–	–	–	–	–
3	New Harbour to Halifax county line	18	–	–	–	6	–
4	Total quantity	778	–	–	210	16	–
5	Total value $	1,176	–	–	2,100	81	–
	Halifax County—						
6	Guysborough county line to East Ship Harbour	300	–	–	–	94	–
7	West Ship Harbour to (but not including) Cole Harbour	220	–	9	–	–	–
8	Cole Harbour to Lunenburg county line	4,299	934	250	673	282	–
9	Total quantity	4,819	934	259	673	376	–
10	Total value $	9,378	1,868	536	8,749	2,908	–
11	Hants County (all)—Total quantity	–	–	–	–	–	–
12	Total value $	–	–	–	–	–	–
	Lunenburg County—						
13	Halifax county line to Mahone Bay	450	–	–	–	150	–
14	Mahone Bay to Queens county line	1,480	–	590	–	–	100
15	Total quantity	1,930	–	590	–	150	100
16	Total value $	3,410	–	1,770	–	300	500
	Queens County—						
17	Lunenburg county line to Port Medway Harbour	–	–	–	–	–	–
18	Port Medway Harbour to Shelburne county line	3,628	–	500	290	550	36
19	Total quantity	3,628	–	500	290	550	36
20	Total value $	9,000	–	2,500	2,610	3,100	288
	Shelburne County—						
21	Queens county line to Negro Harbour	3,754	–	276	–	589	–
22	Negro Harbour (inclusive) to Yarmouth county line	–	–	–	–	–	–
23	Total quantity	3,754	–	276	–	589	–
24	Total value $	8,291	–	1,457	–	3,635	–
	Yarmouth County (all)—						
25	Total quantity	13,870	751	3,622	–	2,259	–
26	Total value $	26,217	2,212	14,293	–	11,945	–
	Digby County—						
27	Yarmouth county line to Weymouth	–	–	–	–	5	–
28	Weymouth to Annapolis county line, including Digby Neck	55,470	65	2,803	1,380	15,695	–
29	Total quantity	55,470	65	2,803	1,380	15,700	–
30	Total value $	70,952	133	6,804	19,287	128,506	–
	Annapolis County (all)—						
31	Total quantity	8,096	471	–	–	2,542	–
32	Total value $	6,480	942	–	–	14,862	–
	Kings County—						
33	Annapolis county line to Cunard	390	–	–	–	130	–
34	Cunard to Hants county line	–	–	–	–	–	–
35	Total quantity	390	–	–	–	130	–
36	Total value $	1,170	–	–	–	1,300	–

I. Fish Caught and Marketed, 1920

Pollock					Tongues and Sounds	Halibut				
Caught and landed	Marketed				Marketed	Caught and landed	Marketed			
	Used fresh	Green-salted	Smoked fillets	Dried	Pickled or dried		Used fresh	Smoked	Canned	
cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cases	
8,502	623	1,120	45	1,829	9	1,189	1,189	–	–	1
66	–	33	–	–	–	34	34	–	–	2
1,852	–	371	–	310	–	295	295	–	–	3
10,420	623	1,524	45	2,139	9	1,518	1,518	–	–	4
16,556	3,112	6,368	450	10,855	45	15,180	23,779	–	–	5
1,200	75	209	–	333	–	1,390	1,389	–	–	6
1,300	75	151	–	229	–	1,775	1,775	–	–	7
12,405	494	350	2,585	1,152	–	3,297	3,297	–	–	8
14,905	644	710	2,585	1,714	–	6,462	6,461	–	–	9
23,608	1,491	2,743	33,605	11,879	–	103,146	131,821	–	–	10
12	–	–	–	4	–	–	–	–	–	11
18	–	–	–	40	–	–	–	–	–	12
6,930	120	–	–	2,270	–	165	165	–	–	13
740	–	–	–	280	–	1,041	1,041	–	–	14
7,670	120	–	–	2,550	–	1,206	1,206	–	–	15
15,340	480	–	–	15,020	–	18,090	20,502	–	–	16
2,500	–	–	–	850	–	20	20	–	–	17
3,942	50	–	–	415	–	752	690	–	–	18
6,442	50	–	–	1,265	–	772	710	–	–	19
8,041	75	–	–	6,855	–	10,834	11,690	–	–	20
5,564	–	–	–	1,019	2	732	707	–	–	21
7,362	46	3,464	–	965	28	1,037	1,029	–	41	22
12,926	46	3,464	–	1,984	30	1,769	1,736	–	41	23
23,346	92	10,360	–	11,529	142	24,769	24,398	–	410	24
10,931	1,298	1,551	–	3,139	9	8,500	8,482	9	–	25
21,349	4,042	4,823	–	21,035	69	150,250	156,724	127	–	26
1,135	–	200	–	245	–	15	15	–	–	27
16,437	–	1,817	–	4,305	717	952	898	27	–	28
17,572	–	2,017	–	4,550	717	967	913	27	–	29
24,069	–	8,436	–	36,094	5,188	16,003	17,248	270	–	30
1,616	194	22	–	452	59	65	65	–	–	31
2,209	323	88	–	3,164	1,313	1,107	1,107	–	–	32
2,008	130	–	–	626	–	28	28	–	–	33
–	–	–	–	–	–	–	–	–	–	34
2,008	130	–	–	626	–	28	28	–	–	35
6,024	390	–	–	6,260	–	280	280	–	–	36

I. Fish Caught and Marketed, 1920

	Fishing Districts	Flounders, Brill, Plaice, etc.	
		Caught and landed	Marketed Used fresh
	NOVA SCOTIA—con.	cwt.	cwt.
	Guysborough County—		
1	Antigonish county line to Cape Canso	230	230
2	Cape Canso to New Harbour	34	–
3	New Harbour to Halifax county line	–	–
4	Total quantity	264	230
5	Total value $	264	510
	Halifax County—		
6	Guysborough county line to East Ship Harbour	–	–
7	West Ship Harbour to (but not including) Cole Harbour	–	–
8	Cole Harbour to Lunenburg county line	386	386
9	Total quantity	386	386
10	Total value $	386	1,294
	Hants County (all)—		
11	Total quantity	–	–
12	Total value $	–	–
	Lunenburg County—		
13	Halifax county line to Mahone Bay	–	–
14	Mahone Bay to Queens county line	–	–
15	Total quantity	–	–
16	Total value $	–	–
	Queens County—		
17	Lunenburg county line to Port Medway Harbour	–	–
18	Port Medway Harbour to Shelburne county line	20	9
19	Total quantity	20	9
20	Total value $	30	36
	Shelburne County—		
21	Queens county line to Negro Harbour	–	–
22	Negro Harbour (inclusive) to Yarmouth county line	–	–
23	Total quantity	–	–
24	Total value $	–	–
	Yarmouth County (all)—		
25	Total quantity	–	–
26	Total value $	–	–
	Digby County		
27	Yarmouth county line to Weymouth	65	–
28	Weymouth to Annapolis county line including Digby Neck	40	105
29	Total quantity	105	105
30	Total value $	141	526
	Annapolis County (all)—		
31	Total quantity	–	–
32	Total value $	–	–
	Kings County—		
33	Annapolis county line to Cunard	–	–
34	Cunard to Hants county line	–	–
35	Total quantity	–	–
36	Total value $	–	–

I. Fish Caught and Marketed, 1920

Skate		Herring						
Caught and landed	Marketed	Caught and landed	Marketed					
	Used fresh		Used fresh	Canned	Smoked	Pickled	Used as bait	
cwt.	cwt.	cwt.	cwt.	cases	cwt.	bbl.	bbl.	
–	–	8,991	3,123	–	256	379	2,100	1
–	–	2,485	–	–	–	38	1,238	2
–	–	1,824	–	–	–	590	27	3
–	–	13,300	3,123	–	256	1,007	3,365	4
–	–	15,124	9,320	–	1,103	7,066	6,784	5
–	–	12,231	100	–	–	4,396	1,000	6
–	–	10,347	100	–	–	726	2,461	7
367	367	27,656	6,070	–	4,283	3,652	1,032	8
367	367	50,234	6,270	–	4,283	8,774	4,493	9
367	727	72,812	16,790	–	24,830	51,961	20,401	10
–	–	218	–	–	5	70	–	11
–	–	327	–	–	15	560	–	12
–	–	22,435	510	–	–	7,270	58	13
–	–	12,318	45	–	–	4 090	–	14
–	–	34,753	555	–	–	11,360	58	15
–	–	69,456	1,665	–	–	68,256	203	16
–	–	1,220	–	–	–	160	113	17
5	5	17,150	4,690	–	103	2,590	2,500	18
5	5	18,370	4,690	–	103	2,750	2,613	19
5	15	19,659	18,760	–	415	18,744	12,952	20
–	–	30,300	2,000	–	400	1,652	11,410	21
–	–	3,916	–	–	–	7	1,810	22
–	–	34,216	2,000	–	400	1,659	13,220	23
–	–	35,328	9,000	–	800	10,070	49,690	24
–	–	7,555	–	135	887	137	2,638	25
–	–	13,385	–	1,025	2,304	1,132	9,233	26
–	–	540	270	–	10	78	–	27
–	–	6,025	97	3,691	845	50	1,833	28
–	–	6,565	367	3,691	855	128	1,833	29
–	–	7,318	734	22,201	2,680	826	2,749	30
–	–	6,024	1,551	–	–	1,180	466	31
–	–	9,035	2,326	–	–	10,620	1,631	32
–	–	6,280	409	–	1,425	615	588	33
–	–	–	–	–	–	–	–	34
–	–	6,280	409	–	1,425	615	588	35
–	–	6,280	409	–	11,400	4,920	1,176	36

I. Fish Caught and Marketed, 1920

	Fishing Districts	Mackerel				Alewives			
		Caught and landed	Marketed			Caught and landed	Marketed		
			Used fresh	Canned	Salted		Used fresh	Salted	Smoked
		cwt.	cwt.	cases	bbl.	cwt.	cwt.	bbl.	cwt.
	NOVA SCOTIA—con.								
	Guysborough County—								
1	Antigonish county line to Cape Canso	11,682	10,311	–	457	39	30	3	–
2	Cape Canso to New Harbour	833	728	27	15	30	30	–	–
3	New Harbour to Halifax county line	5,982	–	–	1,994	–	–	–	–
4	Total quantity	18,497	11,039	27	2,466	69	60	3	–
5	Total value $	117,515	133,873	240	44,576	123	125	21	–
	Halifax County—								
6	Guysborough county line to East Ship Harbour	700	110	–	228	100	75	9	–
7	West Ship Harbour to (but not including) Cole Harbour	1,100	100	–	305	100	75	8	–
8	Cole Harbour to Lunenburg county line	5,747	5,747	–	–	–	–	–	–
9	Total quantity	7,547	5,957	–	533	200	150	17	–
10	Total value $	64,670	99,649	–	8,181	800	750	162	–
	Hants County (all)—								
11	Total quantity	–	–	–	–	670	670	–	–
12	Total value $	–	–	–	–	1,675	2,680	–	–
	Lunenburg County—								
13	Halifax county line to Mahone Bay	3,283	3,282	–	–	15	15	–	–
14	Mahone Bay to Queens county line	445	445	–	–	–	–	–	–
15	Total quantity	3,728	3,727	–	–	15	15	–	–
16	Total value $	32,334	37,270	–	–	30	30	–	–
	Queens County—								
17	Lunenburg county line to Port Medway Harbour	581	581	–	–	1,025	475	8	263
18	Port Medway Harbour to Shelburne county line	1,857	1,780	–	–	175	25	50	–
19	Total quantity	2,438	2,361	–	–	1,200	500	58	263
20	Total value $	24,510	25,680	–	–	2,925	1,270	406	1,578
	Shelburne County—								
21	Queens county line to Negro Harbour	915	705	–	18	75	75	–	–
22	Negro Harbour (inclusive) to Yarmouth county line	1,686	1,629	425	–	125	125	–	–
23	Total quantity	2,601	2,334	425	18	200	200	–	–
24	Total value $	21,768	21,270	3,525	280	400	400	–	–
	Yarmouth County (all)—								
25	Total quantity	6,461	6,350	–	6	2,603	2,360	81	–
26	Total value $	52,834	52,300	–	135	5,506	5,369	581	–
	Digby County—								
27	Yarmouth county line to Weymouth	–	–	–	–	20	20	–	–
28	Weymouth to Annapolis county line, including Digby Neck	28	28	–	–	–	–	–	100
29	Total quantity	28	28	–	–	20	20	–	100
30	Total value $	336	336	–	–	20	40	–	1,223
	Annapolis County (all)—								
31	Total quantity	111	111	–	–	16	16	–	–
32	Total value $	1,110	1,110	–	–	20	80	–	–
	Kings County—								
33	Annapolis County line to Cunard	264	264	–	–	–	–	–	–
34	Cunard to Hants county line $	–	–	–	–	975	225	250	–
35	Total quantity	264	264	–	–	975	225	250	–
36	Total value $	2,640	2,640	–	–	2,700	1,000	1,750	–

I. Fish Caught and Marketed, 1920

Bass		Salmon				Shad		
Caught and landed	Marketed: Used fresh	Caught and landed	Marketed: Used fresh	Marketed: Canned	Marketed: Smoked	Caught and landed	Marketed: Used fresh	
cwt.	cwt.	cwt.	cwt.	cases	cwt.	cwt.	cwt.	
–	–	236	236	–	–	–	–	1
–	–	–	–	–	–	–	–	2
–	–	106	106	–	–	–	–	3
–	–	342	342	–	–	–	–	4
–	–	5,214	10,733	–	–	–	–	5
–	–	93	93	–	1	–	–	6
–	–	93	90	–	1	–	–	7
–	–	227	227	–	–	–	–	8
–	–	413	410	–	2	–	–	9
–	–	8,260	10,177	–	80	–	–	10
–	–	105	105	–	–	–	–	11
–	–	2,625	2,100	–	–	–	–	12
–	–	35	35	–	–	–	–	13
–	–	45	45	–	–	–	–	14
–	–	80	80	–	–	–	–	15
–	–	2,400	2,500	–	–	–	–	16
–	–	133	133	–	–	10	10	17
–	–	14	14	–	–	–	–	18
–	–	147	147	–	–	10	10	19
–	–	5,225	5,225	–	–	200	200	20
–	–	3	3	–	–	–	–	21
–	–	–	–	–	–	–	–	22
–	–	3	3	–	–	–	–	23
–	–	90	90	–	–	–	–	24
–	–	57	57	–	1	–	–	25
–	–	1,890	2,320	–	20	–	–	26
–	–	3	3	–	–	–	–	27
–	–	5	5	–	–	–	–	28
–	–	8	8	–	–	–	–	29
–	–	160	175	–	–	–	–	30
10	10	60	60	–	–	–	–	31
100	100	1,845	1,845	–	–	–	–	32
–	–	255	255	–	–	–	–	33
–	–	10	10	–	–	–	–	34
–	–	265	265	–	–	–	–	35
–	–	6,575	6,575	–	–	–	–	36

I. Fish Caught and Marketed, 1920

	Fishing Districts	Smelts		Sturgeon		Trout	
		Caught and landed	Marketed Used fresh	Caught and landed	Marketed Used fresh	Caught and landed	Marketed Used fresh
	NOVA SCOTIA—con.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
	Guysborough County—						
1	Antigonish county line to Cape Canso	381	381	–	–	–	–
2	Cape Canso to New Harbour	–	–	–	–	–	–
3	New Harbour to Halifax County line	68	68	–	–	–	–
4	Total quantity	449	449	–	–	–	–
5	Total value $	3,642	5,256	–	–	–	–
	Halifax County—						
6	Guysborough county line to East Ship Harbour	120	120	–	–	11	11
7	West Ship Harbour to (but not including) Cole Harbour	200	200	–	–	11	11
8	Cole Harbour to Lunenburg county line	13	13	3	3	12	12
9	Total quantity	333	333	3	3	34	34
10	Total value $	3,976	6,580	45	60	620	722
	Hants County (all)—						
11	Total quantity	–	–	–	–	8	8
12	Total value $	–	–	–	–	120	160
	Lunenburg County—						
13	Halifax county line to Mahone Bay	52	52	–	–	–	–
14	Mahone Bay to Queens county line	68	68	–	–	–	–
15	Total quantity	120	120	–	–	–	–
16	Total value $	1,863	2,400	–	–	–	–
	Queens County—						
17	Lunenburg County line to Port Medway Harbour	20	20	–	–	65	65
18	Port Medway Harbour to Shelburne county line	–	–	–	–	100	100
19	Total quantity	20	20	–	–	165	165
20	Total value $	200	200	–	–	1,975	1,975
	Shelburne County—						
21	Queens county line to Negro Harbour	94	94	–	–	–	–
22	Negro Harbour (inclusive) to Yarmouth county line	–	–	–	–	–	–
23	Total quantity	94	94	–	–	–	–
24	Total value $	1,308	1,308	–	–	–	–
	Yarmouth County (all)—						
25	Total quantity	443	445	–	–	7	7
26	Total value $	9,219	9,244	–	–	80	80
	Digby County—						
27	Yarmouth County line to Weymouth	–	–	–	–	20	20
28	Weymouth to Annapolis County line including Digby Neck	109	115	–	–	50	50
29	Total quantity	109	115	–	–	70	70
30	Total value $	1,985	2,036	–	–	1,200	1,300
	Annapolis County (all)—						
31	Total quantity	10	10	6	6	207	207
32	Total value $	100	100	141	141	6,240	6,240
	Kings County—						
33	Annapolis County line to Cunard	–	–	–	–	15	15
34	Cunard to Hants county line	–	–	–	–	50	50
35	Total quantity	–	–	–	–	65	65
36	Total value $	–	–	–	–	1,150	1,150

I. Fish Caught and Marketed, 1920

Albacore		Eels		Squid		Swordfish		Tom Cod		
Caught and landed	Marketed Used fresh	Caught and landed	Marketed Used fresh	Caught and landed	Marketed Used as bait	Caught and landed	Marketed Used fresh	Caught and landed	Marketed Used fresh	
cwt.	cwt.	cwt.	cwt.	bbl.	bbl.	cwt.	cwt.	cwt.	cwt	
–	–	54	53	1,371	1,371	195	195	–	–	1
–	–	–	–	–	–	120	120	–	–	2
–	–	97	107	–	–	164	164	–	–	3
–	–	151	160	1,371	1,371	479	479	–	–	4
–	–	996	1,712	4,113	4,113	4,780	7,110	–	–	5
–	–	–	–	–	–	7	9	–	–	6
–	–	–	–	–	–	5	5	–	–	7
828	828	–	–	115	115	68	68	–	–	8
828	828	–	–	115	115	80	82	–	–	9
3,312	3,318	–	–	575	575	960	1,120	–	–	10
–	–	–	–	–	–	–	–	–	–	11
–	–	–	–	–	–	–	–	–	–	12
219	219	–	–	13	13	–	–	–	–	13
–	–	–	–	–	–	–	–	–	–	14
219	219	–	–	13	13	–	–	–	–	15
2,971	3,600	–	–	65	65	–	–	–	–	16
–	–	30	30	–	–	–	–	–	–	17
36	36	605	605	60	60	18	18	–	–	18
36	36	635	635	60	60	18	18	–	–	19
210	180	5,645	5,717	180	180	270	270	–	–	20
90	93	–	–	–	–	100	180	–	–	21
185	185	–	–	–	–	–	–	–	–	22
275	278	–	–	–	–	100	180	–	–	23
1,875	2,247	–	–	–	–	2,100	3,060	–	–	24
135	132	78	86	–	–	47	76	5	5	25
1,047	1,036	1,170	1,222	–	–	786	1,588	40	40	26
–	–	15	15	–	–	–	–	12	12	27
45	45	75	75	–	–	–	–	42	42	28
45	45	90	90	–	–	–	–	54	54	29
180	180	1,080	1,125	–	–	–	–	56	80	30
–	–	15	15	–	–	–	–	7	7	31
–	–	75	75	–	–	–	–	14	14	32
–	–	–	–	–	–	–	–	–	–	33
–	–	–	–	–	–	–	–	–	–	34
–	–	–	–	–	–	–	–	–	–	35
–	–	–	–	–	–	–	–	–	–	36

I. Fish Caught and Marketed, 1920

	Fishing Districts	Mixed Fish		Clams and Quahaugs		
		Caught and landed	Marketed	Caught and landed	Marketed	
			Used fresh		Used fresh	Canned
	NOVA SCOTIA—con.	cwt.	cwt.	bbl.	bbl.	cases
	Guysborough County—					
1	Antigonish county line to Cape Canso	-	-	-	-	-
2	Cape Canso to New Harbour	313	313	-	-	-
3	New Harbour to Halifax county line	-	-	-	-	-
4	Total quantity	313	313	-	-	-
5	Total value $	88	88	-	-	-
	Halifax County—					
6	Guysborough county line to East Ship Harbour	-	-	-	-	-
7	West Ship Harbour to (but not including) Cole Harbour	-	-	1,200	1,200	-
8	Cole Harbour to Lunenburg county line	284	284	7	7	-
9	Total quantity	284	284	1,207	1,207	-
10	Total value $	568	568	6,056	9,656	-
	Hants County (all)—					
11	Total quantity	-	-	-	-	-
12	Total value $	-	-	-	-	-
	Lunenburg County—					
13	Halifax county line to Mahone Bay	-	-	98	-	-
14	Mahone Bay to Queens county line	-	-	-	-	143
15	Total quantity	-	-	98	-	143
16	Total value $	-	-	196	-	780
	Queens County—					
17	Lunenburg county line to Port Medway Harbour	-	-	17	17	-
18	Port Medway Harbour to Shelburne county line	-	-	50	50	-
19	Total quantity	-	-	67	67	-
20	Total value $	-	-	325	325	-
	Shelburne County—					
21	Queens county line to Negro Harbour	-	-	22	22	-
22	Negro Harbour (inclusive) to Yarmouth county line	-	-	-	-	-
23	Total quantity	-	-	22	22	-
24	Total value $	-	-	95	95	-
	Yarmouth County (all)—					
25	Total quantity	-	-	-	-	-
26	Total value $	-	-	-	-	-
	Digby County—					
27	Yarmouth county line to Weymouth	-	-	1,034	1,034	-
28	Weymouth to Annapolis county line, including Digby Neck	700	700	3,602	1,280	2,277
29	Total quantity	700	700	4,636	2,314	2,277
30	Total value $	175	175	9,204	4,630	14,668
	Annapolis County (all)—					
31	Total quantity	10	10	1,881	1,881	-
32	Total value $	20	20	3,530	3,530	-
	Kings County—					
33	Annapolis county line to Cunard	-	-	250	250	-
34	Cunard to Hants county line	-	-	15	15	-
35	Total quantity	-	-	265	265	-
36	Total value $	-	-	825	825	-

I. Fish Caught and Marketed, 1920

Lobsters				Mussels		Oysters		
Caught and landed	Marketed			Caught and landed	Marketed	Caught and landed	Marketed	
	Shipped in shell	Canned	Tomalley		Used fresh		Used fresh	
cwt.	cwt.	cases	cases	cwt.	cwt.	bbl.	bbl.	
7,343	1,579	2,522	292	–	–	–	–	1
1,315	119	958	27	–	–	–	–	2
6,722	1,160	2,990	38	–	–	–	–	3
15,380	2,858	6,470	357	–	–	–	–	4
166,644	43,079	233,974	7,125	–	–	–	–	5
5,092	–	2,660	50	–	–	–	–	6
1,680	–	836	–	–	–	350	350	7
1,680	1,220	120	–	–	–	–	–	8
8,452	1,220	3,616	50	–	–	350	350	9
106,464	22,400	132,073	535	–	–	2,800	3,500	10
–	–	–	–	–	–	–	–	11
–	–	–	–	–	–	–	–	12
1,773	1,157	308	29	–	–	–	–	13
3,924	3,416	254	3	–	–	–	–	14
5,697	4,573	562	32	–	–	–	–	15
83,855	102,460	18,398	277	–	–	–	–	16
790	77	–	–	–	–	–	–	17
4,459	2,398	1,041	–	–	–	–	–	18
5,249	2,475	1,041	–	–	–	–	–	19
77,913	43,240	40,494	–	–	–	–	–	20
6,543	2,430	2,605	–	–	–	–	–	21
23,954	10,623	6,117	251	–	–	–	–	22
30,497	13,053	8,722	251	–	–	–	–	23
445,754	289,202	309,422	2,768	–	–	–	–	24
41,73	19,957	12,339	54	–	–	–	–	25
641,592	395,720	475,139	523	–	–	–	–	26
6,421	2,751	917	–	–	–	–	–	27
5,055	3,919	1,491	56	172	172	–	–	28
11,476	6,670	2,408	56	172	172	–	–	29
215,346	156,367	94,523	672	121	121	–	–	30
2,117	1,669	–	–	–	–	–	–	31
38,680	33,380	–	–	–	–	–	–	32
218	218	–	–	–	–	–	–	33
–	–	–	–	–	–	–	–	34
218	218	–	–	–	–	–	–	35
5,450	5,450	–	–	–	–	–	–	36

I. Fish Caught and Marketed, 1920

	Fishing Districts	Scallops		Winkles	
		Caught and landed	Marketed Shelled	Caught and landed	Marketed Used fresh
	Nova Scotia—concluded	bbl.	gal.	cwt.	cwt.
	Guysborough County—				
1	Antigonish county line to Cape Canso	–	–	–	–
2	Cape Canso to New Harbour	–	–	–	–
3	New Harbour to Halifax county line	–	–	–	–
4	Total quantity	–	–	–	–
5	Total value $	–	–	–	–
	Halifax County—				
6	Guysborough county line to East Ship Harbour	–	–	–	–
7	West Ship Harbour to (but not including) Cole Harbour	–	–	–	–
8	Cole Harbour to Lunenburg county line	–	–	–	–
9	Total quantity	–	–	–	–
10	Total value $	–	–	–	–
	Hants County (all)—				
11	Total quantity	–	–	–	–
12	Total value $	–	–	–	–
	Lunenburg County—				
13	Halifax county line to Mahone Bay	3,757	7,273	–	–
14	Mahone Bay to Queens county line	321	642	–	–
15	Total quantity	4,078	7,915	–	–
16	Total value $	23,124	28,326	–	–
	Queens County—				
17	Lunenburg county line to Port Medway Harbour	–	–	–	–
18	Port Medway Harbour to Shelburne county line	–	–	–	–
19	Total quantity	–	–	–	–
20	Total value $	–	–	–	–
	Shelburne County—				
21	Queens county line to Negro Harbour	–	–	–	–
22	Negro Harbour (inclusive) to Yarmouth county line	–	–	–	–
23	Total quantity	–	–	–	–
24	Total value $	–	–	–	–
	Yarmouth County (all)—				
25	Total quantity	–	–	15	15
26	Total value $	–	–	45	45
	Digby County—				
27	Yarmouth county line to Weymouth	–	–	–	–
28	Weymouth to Annapolis county line including Digby Neck	105	210	1,790	1,790
29	Total quantity	105	210	1,790	1,790
30	Total value $	487	504	2,697	2,697
	Annapolis County (all)—				
31	Total quantity	–	–	80	80
32	Total value $	–	–	108	108
	Kings County—				
33	Annapolis county line to Cunard	–	–	–	–
34	Cunard to Hants county line	–	–	–	–
35	Total quantity	–	–	–	–
36	Total value $	–	–	–	–

I. Fish Caught and Marketed, 1920

Hair Seals			Fish Oil	Fish Fertilizer	Fish Offal	Fish Bones	Fish Skins	
Caught and landed	Marketed		Marketed	Marketed	Marketed	Marketed	Marketed	
	Skins	Oil						
no.	no.	gal.	gal.	tons	tons	cwt.	cwt.	
-	-	-	20,481	136	25	-	174	1
-	-	-	333	-	-	-	-	2
-	-	-	2,834	-	-	-	-	3
-	-	-	23,648	136	25	-	174	4
-	-	-	19,170	545	50	-	277	5
-	-	-	2,105	-	-	220	90	6
-	-	-	2,935	-	-	-	28	7
-	-	-	5,400	-	498	200	150	8
-	-	-	10,440	-	498	420	268	9
-	-	-	7,904	-	1,743	250	513	10
-	-	-	-	-	-	-	-	11
-	-	-	-	-	-	-	-	12
-	-	-	2,200	-	-	-	-	13
-	-	-	34 447	-	40	-	400	14
-	-	-	36,647	-	40	-	400	15
-	-	-	34,774	-	720	-	800	16
-	-	-	950	-	-	40	30	17
-	-	-	7,000	-	50	175	250	18
-	-	-	7,950	-	50	215	280	19
-	-	-	5,662	-	50	270	1,083	20
-	-	-	3,370	-	-	4,600	50	21
-	-	-	7,173	-	12	127	609	22
-	-	-	10,543	-	12	4,727	659	23
-	-	-	8,845	-	75	1,459	1,665	24
-	-	-	7,995	-	100	1,969	1,525	25
-	-	-	5,743	-	200	763	3,931	26
-	-	-	384	-	-	225	298	27
-	-	-	28,897	-	175	490	2,173	28
-	-	-	29,281	-	175	715	2,471	29
-	-	-	25,459	-	398	349	6,863	30
-	-	-	2,748	-	15	-	-	31
-	-	-	2,198	-	75	-	-	32
-	-	-	200	-	-	-	-	33
-	-	-	-	-	-	-	-	34
-	-	-	200	-	-	-	-	35
-	-	-	.150	-	-	-	-	36

I. Fish Caught and Marketed, 1920

	Fishing Districts	Cod						
		Caught and landed	Marketed					
			Used fresh	Green-salted	Smoked fillets	Dried	Boneless	Roe
	NEW BRUNSWICK—Sea Fisheries	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
	Total Sea Fisheries for Province—							
1	**Quantity**	**86,382**	**12,086**	**12,751**	**71**	**16,342**	**261**	**40**
2	**Value** $	**191,491**	**56,109**	**73,042**	**819**	**138,320**	**4,926**	**400**
	Charlotte County—							
	International boundary line to Back Bay							
3		3,395	2,281	863	18	376	36	40
4	Back Bay to St. John county line	4,190	-	2,150	-	717	27	-
5	Campobello and Deer Islands	8,805	-	5,804	-	2	-	-
6	Grand Manan	12,642	3,760	915	-	-	-	-
7	Total quantity	29,032	6,041	9,732	18	1,095	63	40
8	Total value $	68,101	21,918	51,635	180	7,456	2,478	400
	St. John County (all)—							
9	Total quantity	2,200	930	228	53	111	123	-
10	Total value $	5,500	4,809	1,382	639	831	1,548	-
	Albert County (all)							
11	Total quantity	-	-	-	-	-	-	-
12	Total value $	-	-	-	-	-	-	-
	Westmorland County—							
13	Bay of Fundy	-	-	-	-	-	-	-
14	Nova Scotia line to Cape Bruin	-	-	-	-	-	-	-
15	Cape Bruin to Kent county line	-	-	-	-	-	-	-
16	Total quantity	-	-	-	-	-	-	-
17	Total value $	-	-	-	-	-	-	-
	Kent County—							
	Westmorland county line to (but not including) Chockfish river							
18		200	200	-	-	-	-	-
19	Chockfish river to Point Sapin	140	140	-	-	-	-	-
20	Point Sapin to Northumberland county line	-	-	-	-	-	-	-
21	Total quantity	340	340	-	-	-	-	-
22	Total value $	1,770	1,770	-	-	-	-	-
	Northumberland County—							
23	Kent county line to Point au Car	80	80	-	-	-	-	-
24	Northwest and Southwest Miramichi river	-	-	-	-	-	-	-
25	Point au Car to Gloucester county line (including Miramichi Bay)	1,016	67	60	-	280	-	-
26	Total quantity	1,095	147	60	-	280	-	-
7	Total value $	3,365	962	360	-	2,360	-	-
	Gloucester County—							
28	Northumberland county line to Inkerman	1,500	310	210	-	256	-	-
29	Islands of Shippegan and Miscou	18,147	-	5	-	5,971	75	-
30	Inkerman to Glen Anglin	30,112	1,580	1,855	-	8,629	-	-
31	Glen Anglin to Restigouche county line	2,556	1,838	411	-	-	-	-
32	Total quantity	52,315	3,728	2,481	-	14,856	75	-
33	Total value $	105,755	19,450	17,165	-	127,673	900	-
	Restigouche County (all)—							
34	Total quantity	1,400	900	250	-	-	-	-
35	Total value $	7,000	7,200	2,500	-	-	-	-

I. Fish Caught and Marketed, 1920

Haddock						Hake and Cusk					
Caught and landed	Marketed					Caught and landed	Marketed				
	Used fresh	Smoked	Canned	Green-salted	Dried		Used fresh	Green-salted	Dried	Boneless	
cwt.	cwt.	cwt.	cases	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	
4,624	2,222	30	997	47	226	69,334	1,116	28,614	3,458	128	1
8,624	11,013	396	4,237	235	1,603	65,853	4,761	72,579	21,515	1,275	2
371	1,168	30	-	-	6	431	163	84	530	-	3
2,064	50	-	997	-	-	26,350	-	13,211	1,854	-	4
634	211	-	-	-	-	20,584	-	12,155	504	-	5
15	10	-	-	-	-	12,369	-	-	-	-	6
3,084	1,439	30	997	-	6	59,734	163	25,450	2,888	-	7
5,157	7,436	396	4,237	-	42	53,002	654	63,625	17,839	-	8
355	355	-	-	-	-	7,500	100	3,120	180	128	9
1,065	1,875	-	-	-	-	7,500	150	8,690	720	1,275	10
-	-	-	-	-	-	-	-	-	-	-	11
-	-	-	-	-	-	-	-	-	-	-	12
-	-	-	-	-	-	-	-	-	-	-	13
-	-	-	-	-	-	-	-	-	-	-	14
-	-	-	-	-	-	-	-	-	-	-	15
-	-	-	-	-	-	-	-	-	-	-	16
-	-	-	-	-	-	-	-	-	-	-	17
-	-	-	-	-	-	-	-	-	-	-	18
20	20	-	-	-	-	980	490	-	164	-	19
-	-	-	-	-	-	-	-	-	-	-	20
20	20	-	-	-	-	980	490	-	164	-	21
80	90	-	-	-	-	3,920	2,940	-	1,148	-	22
-	-	-	-	-	-	-	-	-	-	-	23
-	-	-	-	-	-	-	-	-	-	-	24
12	-	-	-	-	4	18	18	-	-	-	25
12	-	-	-	-	4	18	18	-	-	-	26
24	-	-	-	-	24	54	120	-	-	-	27
-	-	-	-	-	-	-	-	-	-	-	28
-	-	-	-	-	-	-	-	-	-	-	29
830	85	-	-	47	216	827	70	44	226	-	30
323	323	-	-	-	-	-	-	-	-	-	31
1,153	408	-	-	47	216	827	70	44	226	-	32
2,298	1,612	-	-	235	1,537	827	350	264	1,808	-	33
-	-	-	-	-	-	275	275	-	-	-	34
-	-	-	-	-	-	550	550	-	-	-	35

I. Fish Caught and Marketed, 1920

	Fishing Districts	Pollock				Tongues and Sounds	Halibut		Flounders, Brill, Plaice, etc.	
		Caught and landed	Marketed			Marketed	Caught and landed	Marketed	Caught and landed	Marketed
			Used fresh	Green-salted	Dried	Pickled or dried		Used fresh		Used fresh
	New Brunswick Sea Fisheries—con.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
	Total Sea Fisheries for Province—									
1	**Quantity**	44,363	5,525	6,836	8,423	165	136	136	1,814	1,814
2	**Value** $	47,276	6,172	17,656	44,412	1,847	2,348	3,618	4,568	8,036
	Charlotte County—									
3	International Boundary line to Back Bay	4,634	252	610	2,285	31	-	22	806	874
4	Back Bay to St. John county line	4,072	-	2,652	364	95	-	-	-	-
5	Campobello and Deer Islands	25,223	4,903	3,324	4,873	13	32	32	68	-
6	Grand Manan	9,974	370	50	863	-	104	82	-	-
7	Total quantity	43,903	5,525	6,636	8,385	139	136	136	874	874
8	Total value $	46,701	6,172	17,056	44,070	1,253	2,348	3,618	2,688	4,276
	St. John County (all)—									
9	Total quantity	460	-	200	38	26	-	-	-	-
10	Total value $	575	-	600	342	594	-	-	-	-
	Albert County (all)—									
11	Total quantity	-	-	-	-	-	-	-	-	-
12	Total value $	-	-	-	-	-	-	-	-	-
	Westmorland County—									
13	Bay of Fundy	-	-	-	-	-	-	-	-	-
14	Nova Scotia line to Cape Bruin	-	-	-	-	-	-	-	-	-
15	Cape Bruin to Kent county line	-	-	-	-	-	-	-	-	-
16	Total quantity	-	-	-	-	-	-	-	-	-
17	Total value $	-	-	-	-	-	-	-	-	-
	Kent County—									
18	Westmorland county line to (but not including) Chockfish river	-	-	-	-	-	-	-	-	-
19	Chockfish river to Point Sapin	-	-	-	-	-	-	-	-	-
20	Point Sapin to Northumberland county line	-	-	-	-	-	-	-	-	-
21	Total quantity	-	-	-	-	-	-	-	-	-
22	Total value $	-	-	-	-	-	-	-	-	-
	Northumberland County—									
23	Kent county line to Point au Car	-	-	-	-	-	-	-	-	-
24	Northwest and Southwest Miramichi river	-	-	-	-	-	-	-	-	-
25	Point au Car to Gloucester county line (including Miramichi Bay)	-	-	-	-	-	-	-	940	940
26	Total quantity	-	-	-	-	-	-	-	940	940
27	Total value $	-	-	-	-	-	-	-	1,880	3,760
	Gloucester County—									
28	Northumberland county line to Inkerman	-	.	-	-	-	-	-	-	-
29	Islands of Shippegan and Miscou	-	-	-	-	-	-	-	-	-
30	Inkerman to Glen Anglin	-	-	-	-	-	-	-	-	-
31	Glen Anglin to Restigouche county line	-	-	-	-	-	-	-	-	-
32	Total quantity	-	-	-	-	-	-	-	-	-
33	Total value $	-	-	-	-	-	-	-	-	-
	Restigouche County (all)—									
34	Total quantity	-	-	-	-	-	-	-	-	-
35	Total value $	-	-	-	-	-	-	-	-	-

I. Fish Caught and Marketed, 1920

Skate		Herring								
Caught and landed	Marketed: Used fresh	Caught and landed	Marketed: Used fresh	Marketed: Boneless	Marketed: Canned	Marketed: Smoked	Marketed: Pickled	Marketed: Used as bait	Marketed: Fertilizer	
cwt.	cwt.	cwt.	cwt.	cwt.	cases	cwt.	bbl.	bbl.	bbl.	
229	**229**	**446,547**	**18,288**	**448**	**6,397**	**107,490**	**8,023**	**39,118**	**53,154**	1
458	**894**	**291,195**	**29,678**	**4,480**	**35,683**	**345,570**	**54,867**	**70,991**	**68,112**	2
229	229	750	645	–	–	–	–	375	–	3
–	–	2,768	–	–	6,397	–	–	–	–	4
–	–	5,550	–	–	–	–	–	2,775	–	5
–	–	214,490	–	448	–	86,640	–	19,975	–	6
229	229	223,558	645	448	6,397	86,640	–	23,125	–	7
458	894	116,777	3,255	4,480	35,683	173,280	–	24,100	–	8
–	–	12,800	12,460	–	–	170	–	–	–	9
–	–	6,400	12,057	–	–	1,226	–	–	–	10
–	–	–	–	–	–	–	–	–	–	11
–	–	–	–	–	–	–	–	–	–	12
–	–	–	–	–	–	–	–	–	–	13
–	–	32,000	220	–	–	15,814	100	200	100	14
–	–	44,615	700	–	–	4,861	1,600	4,950	8,554	15
–	–	76,615	920	–	–	20,675	1,700	5,150	8,654	16
–	–	53,507	3,660	–	–	171,039	8,600	20,400	13,031	17
–	–	18,830	229	–	–	–	800	2,305	5,795	18
–	–	1,000	1,000	–	–	–	–	–	–	19
–	–	2,800	150	–	–	–	170	858	125	20
–	–	22,630	1,379	–	–	–	970	3,163	5,920	21
–	–	33,460	5,558	–	–	–	5,190	10,641	11,841	22
–	–	1,200	–	–	–	–	–	600	–	23
–	–	–	–	–	–	–	–	–	–	24
–	–	7,835	870	–	–	–	127	3,000	300	25
–	–	9,035	870	–	–	–	127	3,600	300	26
–	–	9,635	870	–	–	–	533	5,800	300	27
–	–	1,200	260	–	–	5	–	200	280	28
–	–	61,100	–	–	–	–	2,550	2,300	24,500	29
–	–	26,400	610	–	–	–	2,676	925	8,200	30
–	–	12,525	550	–	–	–	–	610	5,300	31
–	–	101,225	1,420	–	–	5	5,226	4,035	38,280	32
–	–	70,732	3,684	–	–	25	40,544	9,960	42,940	33
–	–	684	594	–	–	–	–	45	–	34
–	–	684	594	–	–	–	–	90	–	35

I. Fish Caught and Marketed, 1920

	Fishing Districts	Mackerel			Sardines		
		Caught and landed	Marketed		Caught and landed	Marketed	
			Used fresh	Salted		Canned	Sold fresh and salted
	New Brunswick Sea Fisheries—con.	cwt.	cwt.	bbl.	bbl.	cases	bbl.
1	**Total Sea Fisheries for Province—Quantity...**	**15,102**	**14,674**	**174**	**196,562**	**129,925**	**164,014**
2	**Value ..... $**	**73,648**	**139,747**	**2,488**	**284,533**	**627,972**	**231,626**
	Charlotte County—						
3	International Boundary line to Back Bay.....	-	-	-	66,500	-	66,544
4	Back Bay to St. John county line.....	-	-	-	34,392	129,925	-
5	Campobello and Deer Islands	-	-	-	22,325	-	22,325
6	Grand Manan.....	-	-	-	28,545	-	30,345
7	Total quantity.....	-	-	-	151,762	129,925	119,214
8	Total value.....$	-	-	-	239,733	627,972	186,726
	St. John County (all)—						
9	Total quantity.....	-	-	-	44,800	-	44,800
10	Total value .....$	-	-	-	44,800	-	44,900
	Albert County (all)—						
11	Total quantity.....	-	-	-	-	-	-
12	Total value .....$	-	-	-	-	-	-
	Westmorland County—						
13	Bay of Fundy	-	-	-	-	-	-
14	Nova Scotia line to Cape Bruin.....	-	-	-	-	-	-
15	Cape Bruin to Kent county line.....	12	12	-	-	-	-
16	Total quantity.....	12	12	-	-	-	-
17	Total value .....$	120	120	-	-	-	-
	Kent County—						
18	Westmorland county line to (but not including) Chockfish river	-	-	-	-	-	-
19	Chockfish river to Point Sapin.	2,150	2,150	-	-	-	-
20	Point Sapin to Northumberland county line ..	500	500	-	-	-	-
21	Total quantity.....	2,650	2,650	-	-	-	-
22	Total value.....$	13,250	27,200	-	-	-	-
	Northumberland County—						
23	Kent county line to Point au Car	410	410	-	-	-	-
24	Northwest and Southwest Miramichi river ...	-	-	-	-	-	-
25	Point au Car to Gloucester county line (including Miramichi Bay).....	55	55	-	-	-	-
26	Total quantity.....	465	465	-	-	-	-
27	Total value.....$	2,270	4,350	-	-	-	-
	Gloucester County—						
28	Northumberland county line to Inkerman.....	2,260	2,260	-	-	-	-
29	Islands of Shippegan and Miscou	1,825	1,825	-	-	-	-
30	Inkerman to Glen Anglin.	7,199	7,199	-	-	-	-
31	Glen Anglin to Restigouche county line.....	647	219	174	-	-	-
32	Total quantity.....	11,931	11,503	174	-	-	-
33	Total value .....$	57,832	107,901	2,488	-	-	-
	Restigouche County (all)—						
34	Total quantity.....	44	44	-	-	-	-
35	Total value..... .....$	176	176	-	-	-	-

I. Fish Caught and Marketed, 1920

Alewives				Bass		Salmon		
Caught and landed	Marketed			Caught and landed	Marketed	Caught and landed	Marketed	
	Used fresh	Salted	Smoked		Used fresh		Used fresh	
cwt.	cwt.	bbl.	cwt.	cwt.	cwt.	cwt.	cwt.	
53,563	7,209	15,326	2,136	612	612	11,051	11,009	1
99,604	16,972	143,336	17,397	5,319	5,779	242,450	260,932	2
-	-	-	-	-	-	-	-	3
-	-	-	-	-	-	-	-	4
-	-	-	-	-	-	-	-	5
-	-	-	-	-	-	-	-	6
-	-	-	-	-	-	-	-	7
-	-	-	-	-	-	-	-	8
24,600	6,514	5,813	2,136	-	-	1,375	1,375	9
36,900	16,429	53,351	17,397	-	-	41,250	47,284	10
-	-	-	-	-	-	8	8	11
-	-	-	-	-	-	255	255	12
-	-	-	-	-	-	23	23	13
500	500	-	-	-	-	-	-	14
20	20	-	-	2	2	-	-	15
520	520	-	-	2	2	23	23	16
368	368	-	-	24	24	595	595	17
492	-	164	-	-	-	-	-	18
-	-	-	-	60	60	540	540	19
-	-	-	-	20	20	498	498	20
492	-	164	-	80	80	1,038	1,038	21
492	-	1,271	-	750	750	23,910	26,400	22
-	-	-	-	92	92	2,355	2,355	23
13,502	-	4,500	-	10	10	611	611	24
6,820	-	2,337	-	48	48	605	605	25
20,331	-	6,837	-	150	150	3,571	3,571	26
54,164	-	68,064	-	2,831	3,291	73,140	84,717	27
7,620	175	2,506	-	380	380	110	110	28
-	-	-	-	-	-	-	-	29
-	-	-	-	-	-	242	197	30
-	-	-	-	-	-	3,475	3,475	31
7,620	175	2,506	-	380	380	3,827	3,782	32
7,680	175	20,650	-	1,714	1,714	79,060	77,441	33
-	-	-	-	-	-	1,212	1,212	34
-	-	-	-	-	-	24,240	24,240	35

I. Fish Caught and Marketed, 1920

	Fishing Districts	Shad		Smelts	
		Caught and landed	Marketed Used fresh	Caught and landed	Marketed Used fresh
	NEW BRUNSWICK SEA FISHERIES—con.	cwt.	cwt.	cwt.	cwt.
	Total Sea Fisheries for Province—				
1	**Quantity**	**375**	**375**	**40,041**	**40,041**
2	**Value** $	**5,111**	**5,542**	**349,249**	**565,279**
	Charlotte County—				
3	International Boundary line to Back Bay	–	–	103	103
4	Back Bay to St. John county line	–	–	–	–
5	Campobello and Deer Islands	–	–	–	–
6	Grand Manan	–	–	–	–
7	Total quantity	–	–	103	103
8	Total value $	–	–	1,137	1,294
	St. John County (all)—				
9	Total quantity	–	–	–	–
10	Total value $	–	–	–	–
	Albert County (all)—				
11	Total quantity	–	–	–	–
12	Total value $	–	–	–	–
	Westmorland County—				
13	Bay of Fundy	–	–	–	–
14	Nova Scotia line to Cape Bruin	–	–	785	785
15	Cape Bruin to Kent county line	–	–	1,017	1,017
16	Total quantity	–	–	1,802	1,802
17	Total value $	–	–	13,637	15,635
	Kent County—				
18	Westmorland county line to (but not including) Chockfish river	–	–	3,076	3,076
19	Chockfish river to Point Sapin	8	8	3,313	3,313
20	Point Sapin to Northumberland county line	10	10	–	–
21	Total quantity	18	18	6,389	6,389
22	Total value $	164	184	59,411	82,780
	Northumberland County—				
23	Kent county line to Point au Car	–	–	9,120	9,120
24	Northwest and Southwest Miramichi river	163	163	–	–
25	Point au Car to Gloucester county line (including Miramichi Bay)	137	137	14,382	14,382
26	Total quantity	300	300	23,502	23,502
27	Total value $	2,950	3,361	229,758	395,676
	Gloucester County—				
28	Northumberland county line to Inkerman	57	57	2,651	2,651
29	Islands of Shippegan and Miscou	–	–	447	447
30	Inkerman to Glen Anglin	–	–	1,969	1,969
31	Glen Anglin to Restigouche county line	–	–	141	141
32	Total quantity	57	57	5,208	5,208
33	Total value $	1,997	1,997	30,121	54,709
	Restigouche County (all)—				
34	Total quantity	–	–	3,037	3,037
35	Total value $	–	–	15,185	15,185

I. Fish Caught and Marketed, 1920

Caplin		Trout		Eels		Tom Cod		Crabs		
Caught and landed	Marketed: Used as fertilizer	Caught and landed	Marketed: Used fresh	Caught and landed	Marketed: Used fresh	Caught and landed	Marketed: Used fresh	Caught and landed	Marketed: Used as fertilizer	
cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	
30	30	92	92	699	699	8,152	8,152	600	600	1
30	30	1,518	1,550	5,936	7,227	15,626	30,757	200	300	2
–	–	–	–	–	–	–	–	–	–	3
–	–	–	–	–	–	–	–	–	–	4
–	–	–	–	–	–	–	–	–	–	5
–	–	–	–	–	–	–	–	–	–	6
–	–	–	–	–	–	–	–	–	–	7
–	–	–	–	–	–	–	–	–	–	8
–	–	–	–	165	165	–	–	–	–	9
–	–	–	–	1,320	1,590	–	–	–	–	10
–	–	–	–	–	–	–	–	–	–	11
–	–	–	–	–	–	–	–	–	–	12
–	–	–	–	–	–	–	–	–	–	13
–	–	30	30	25	25	–	–	–	–	14
–	–	2	2	3	3	–	–	–	–	15
–	–	32	32	28	28	–	–	–	–	16
–	–	470	470	286	286	–	–	–	–	17
–	–	12	12	9	9	–	–	–	–	18
–	–	–	–	50	50	–	–	–	–	19
–	–	–	–	–	–	–	–	–	–	20
–	–	12	12	59	59	–	–	–	–	21
–	–	240	240	644	644	–	–	–	–	22
–	–	–	–	–	–	120	120	–	–	23
–	–	24	24	40	40	–	–	–	–	24
–	–	16	16	176	176	6,894	6,894	–	–	25
–	–	40	40	216	216	7,014	7,014	–	–	26
–	–	728	760	1,376	2,397	14,088	27,996	–	–	27
–	–	–	–	207	207	–	–	–	–	28
–	–	–	–	–	–	2	2	–	–	29
30	30	–	–	–	–	–	–	600	600	30
–	–	–	–	–	–	986	986	–	–	31
30	30	–	–	207	207	988	988	600	600	32
30	30	–	–	2,070	2,070	1,238	2,461	200	300	33
–	–	8	8	24	24	150	150	–	–	34
–	–	80	80	240	240	300	300	–	–	36

I. Fish Caught and Marketed, 1920

	Fishing Districts	Clams and Quahaugs			Cockles		Lobsters			
		Caught and landed	Marketed		Caught and landed	Marketed	Caught and landed	Marketed		
			Used fresh	Canned		Used fresh		Shipped in shell	Canned	Tom-alley
	New Brunswick Sea Fisheries—concluded.	bbl.	bbl.	cases	cwt.	cwt.	cwt.	cwt.	cases	cases
	Total Sea Fisheries for Province—									
1	**Quantity**	**11,133**	**1,493**	**9,678**	**214**	**214**	**64,346**	**13,514**	**24,532**	**123**
2	**Value** $	**22,363**	**5,775**	**67,946**	**657**	**657**	**683,585**	**308,083**	**781,373**	**1,230**
	Charlotte County—									
3	International Boundary line to Back Bay	2,525	–	2,050	214	214	336	328	–	–
4	Back Bay to St. John county line	6,915	–	7,628	–	–	1,029	1,029	–	–
5	Campobello and Deer Islands	200	–	–	–	–	660	660	–	–
6	Grand Manan	–	–	–	–	–	4,530	4,538	–	–
7	Total quantity	9,640	–	9,678	214	214	6,555	6,555	–	–
8	Total value $	16,612	–	67,946	657	657	184,583	184,676	–	–
	St. John County (all)—									
9	Total quantity	–	–	–	–	–	2,080	2,080	–	–
10	Total value $	–	–	–	–	–	41,600	63,650	–	–
	Albert County (all)—									
11	Total quantity	–	–	–	–	–	–	–	–	–
12	Total value $	–	–	–	–	–	–	–	–	–
	Westmorland County—									
13	Bay of Fundy	–	–	–	–	–	–	–	–	–
14	Nova Scotia line to Cape Bruin	45	45	–	–	–	3,250	700	1,080	–
15	Cape Bruin to Kent county line	345	345	–	–	–	8,267	2,071	2,958	56
16	Total quantity	390	390	–	–	–	11,517	2,771	4,038	56
17	Total value $	2,205	2,205	–	–	–	73,835	35,930	118,048	560
	Kent County—									
18	Westmorland county line to (but not including) Chockfish river	792	792	–	–	–	6,339	735	2,499	–
19	Chockfish river to Point Sapin	–	–	–	–	–	5,726	–	2,863	–
20	Point Sapin to Northumberland county line	–	–	–	–	–	3,781	600	1,497	–
21	Total quantity	792	792	–	–	–	15,846	1,335	6,859	–
22	Total value $	2,772	2,772	–	–	–	119,206	16,275	217,444	–
	Northumberland County—									
23	Kent county line to Point au Car	–	–	–	–	–	5,361	–	2,564	52
24	Northwest and Southwest Miramichi river	–	–	–	–	–	–	–	–	–
25	Point au Car to Gloucester county line (including Miramichi Bay)	6	6	–	–	–	4,656	10	2,352	–
26	Total quantity	6	6	–	–	–	10,017	10	4,916	52
27	Total value $	12	36	–	–	–	78,726	150	154,124	520
	Gloucester County—									
28	Northumberland county line to Inkerman	–	–	–	–	–	1,760	–	653	–
29	Islands of Shippegan and Miscou	–	–	–	–	–	9,422	78	4,718	–
30	Inkerman to Glen Anglin	305	305	–	–	–	5,010	–	2,686	15
31	Glen Anglin to Restigouche county line	–	–	–	–	–	1,389	685	307	–
32	Total quantity	305	305	–	–	–	17,581	763	8,364	15
33	Total value $	762	762	–	–	–	179,635	7,402	280,752	150
	Restigouche County (all)—									
34	Total quantity	–	–	–	–	–	750	–	355	–
35	Total value $	–	–	–	–	–	6,000	–	11,005	–

I. Fish Caught and Marketed, 1920

Oysters		Winkles		Fish Oil	Cod liver oil medicinal	Fish Offal	Fish Bones	Fish Skins	
Caught and landed	Marketed: Used fresh	Caught and landed	Marketed: Used fresh	Marketed	Marketed	Marketed	Marketed	Marketed	
bbl.	bbl.	cwt.	cwt.	gal.	gal.	tons	cwt.	cwt.	
8,207	8,207	30	30	36,033	25	1,139	510	161	1
55,780	70,942	69	69	21,330	20	2,742	247	197	2
-	-	30	30	800	-	-	-	-	3
-	-	-	-	5,334	-	1,065	-	-	4
-	-	-	-	25,415	-	-	-	-	5
-	-	-	-	100	-	-	-	-	6
-	-	30	30	31,649	-	1,065	-	-	7
-	-	69	69	18,692	-	2,502	-	-	8
-	-	-	-	1,536	25	30	510	161	9
-	-	-	-	1,190	20	60	247	197	10
-	-	-	-	-	-	-	-	-	11
-	-	-	-	-	-	-	-	-	12
-	-	-	-	-	-	-	-	-	13
18	18	-	-	-	-	-	-	-	14
131	131	-	-	-	-	-	-	-	15
149	149	-	-	-	-	-	-	-	16
1,496	1,496	-	-	-	-	-	-	-	17
4,633	4,633	-	-	-	-	-	-	-	18
-	-	-	-	-	-	-	-	-	19
-	-	-	-	-	-	-	-	-	20
4,633	4,633	-	-	-	-	-	-	-	21
30,114	35,196	-	-	-	-	-	-	-	22
3,360	3,360	-	-	-	-	-	-	-	23
-	-	-	-	-	-	-	-	-	24
-	-	-	-	48	-	-	-	-	25
3,360	3,360	-	-	48	-	-	-	-	26
23,520	33,600	-	-	48	-	-	-	-	27
-	-	-	-	-	-	4	-	-	28
-	-	-	-	2,800	-	-	-	-	29
65	65	-	-	-	-	40	-	-	30
-	-	-	-	-	-	-	-	-	31
65	65	-	-	2,800	-	44	-	-	32
650	650	-	-	1,400	-	180	-	-	33
-	-	-	-	-	-	-	-	-	34
-	-	-	-	-	-	-	-	-	35

I. Fish Caught and Marketed, 1920

	Fishing Districts	Alewives			Bass	Caviar	Eels	Pickerel	Salmon	Sturgeon	White fish
		Caught and landed	Marketed								
			Sold fresh	Salted							
	New Brunswick Inland Fisheries[1]	cwt.	cwt.	bbl.	cwt.	lb.	cwt.	cwt.	cwt.	cwt.	cwt.
	Total Inland Fisheries for Province—										
	Quantity	**832**	**142**	**230**	**5**	**106**	**60**	**188**	**423**	**80**	**32**
	Value Caught and Landed $	**2,496**	**-**	**-**	**75**	**-**	**600**	**2,256**	**14,805**	**1,600**	**640**
	Value Marketed $	**-**	**426**	**2,300**	**75**	**249**	**600**	**2,256**	**14,805**	**1,600**	**640**
1	Madawaska County quantity	-	-	-	-	-	-	-	-	-	25
2	value $	-	-	-	-	-	-	-	-	-	500
3	Victoria County quantity	7	7	-	-	-	-	-	5	-	5
4	value $	21	21	-	-	-	-	-	175	-	100
5	Carleton County quantity	-	-	-	-	-	-	-	33	-	-
6	value $	-	-	-	-	-	-	-	1,155	-	-
7	York County quantity	-	-	-	-	-	-	-	165	-	-
8	value $	-	-	-	-	-	-	-	5,775	-	-
9	Sunbury County quantity	245	50	65	-	-	-	70	22	-	-
10	value $	735	150	650	-	-	-	840	770	-	-
11	Queens County quantity	555	60	165	5	-	40	60	10	-	-
12	value $	1,665	180	1,650	75	-	400	720	350	-	-
13	Kings County quantity	25	25	-	-	106	20	58	188	80	2
14	value $	75	75	-	-	249	200	696	6,580	1,600	40

Note—In addition to the above there were taken by anglers in inland New Brunswick 637 cwt. of fish, valued at $13,425.

[1]The values given for the Counties are the Marketed values. For the total inland fisheries the values are given as "Caught and landed", and as "Marketed."

I. Fish Caught and Marketed, 1920

	Fishing Districts	Cod							Tongues and Sounds
			Marketed						
		Caught and landed	Used fresh	Green-salted	Dried	Smoked fillets	Bone-less	Cod liver oil Medi-cinal	Mar-keted pickled or dried
	QUEBEC SEA FISHERIES	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	gal.	cwt.
	Total Sea Fisheries for Province—								
	Quantity	**421,860**	**6,628**	**40,856**	**101,814**	**8,500**	**941**	**4,000**	**137**
	Value $	**894,005**	**19,626**	**216,100**	**772,301**	**68,000**	**9,969**	**4,000**	**1,130**
	Bonaventure—								
1	Head of tide to Miguacha	–	–	–	–	–	–	–	–
2	Miguacha to Paspebiac Point	6,390	100	164	110	–	–	–	–
3	Paspebiac Point to Point Maquereau	13,754	–	7,743	1,300	–	–	–	–
	Total quantity	20,144	100	7,907	1,410	–	–	–	–
	Total value $	40,288	200	36,603	8,625	–	–	–	–
	Gaspé (Mainland)—								
4	Point Maquereau to Barachois	45,045	–	19,851	840	–	941	4,000	–
5	Barachois to Fame Point	84,224	80	1,164	27,272	–	–	–	–
6	Fame Point to Cape Chat	17,390	340	1,100	4,950	–	–	–	40
	Total quantity	146,659	420	22,115	33,062	–	941	4,000	40
	Total value $	297,665	1,010	121,490	238,952	–	9,969	4,000	200
	Magdalen Islands—								
7	Southern Subdistrict	31,710	540	660	1,450	8,500	–	–	–
8	Northern Subdistrict	6,170	420	400	1,650	–	–	–	–
	Total quantity	37,880	960	1,060	3,100	8,500	–	–	–
	Total value $	93,157	1,920	5,500	25,600	68,000	–	–	–
	Saguenay—								
9	Tadoussac to Jambons	1,765	200	407	250	–	–	–	–
10	Jambons to Pigons	5,878	420	1,047	1,120	–	–	–	–
11	Pigons to St. Charles	78,325	1,100	3,235	23,585	–	–	–	75
12	St. Charles to Natashquan Point	11,345	175	425	3,440	–	–	–	12
13	Natashquan Point to Cape Whittle	4,132	40	330	1,144	–	–	–	10
14	Cape Whittle to Chicatica	38,524	135	200	12,663	–	–	–	–
15	Chicatica to Bonne Esperance	15,839	1,120	1,400	3,973	–	–	–	–
16	Bonne Esperance to Blanc Sablon	52,496	620	–	17,292	–	–	–	–
17	Anticosti Island	628	28	50	250	–	–	–	–
	Total quantity	208,932	3,838	7,094	63,717	–	–	–	97
	Total value $	442,283	9,486	38,867	494,924	–	–	–	930
	Rimouski (all)—								
18	Total quantity	8,245	1,310	2,680	525	–	–	–	–
19	Total value $	20,612	7,010	13,640	4,200	–	–	–	–

I. Fish Caught and Marketed, 1920

	Fishing Districts	Halibut		Flounders, Brill, Plaice, etc.	
		Caught and landed	Marketed: Used fresh	Caught and landed	Marketed: Used fresh
	QUEBEC SEA FISHERIES—con.	cwt.	cwt.	cwt.	cwt.
1	**Total Sea Fisheries for Province—Quantity**	**240**	**240**	**396**	**396**
2	**Value** $	**1,690**	**2,064**	**2,463**	**2,705**
	Bonaventure—				
3	Head of tide to Miguacha	-	-	-	-
4	Miguacha to Paspebiac Point	-	-	-	-
5	Paspebiac Point to Point Maquereau	-	-	-	-
6	Total quantity	-	-	-	-
7	Total value $	-	-	-	-
	Gaspé (Mainland)—				
8	Point Maquereau to Barachois	-	-	-	-
9	Barachois to Fame Point	-	-	175	175
10	Fame Point to Cape Chat	-	-	200	200
11	Total quantity	-	-	375	375
12	Total value $	-	-	2,400	2,600
	Magdalen Islands—				
13	Southern Subdistrict	-	-	-	-
14	Northern Subdistrict	-	-	-	-
15	Total quantity	-	-	-	-
16	Total value $	-	-	-	-
	Saguenay—				
17	Tadoussac to Jambons	59	59	21	21
18	Jambons to Pigons	44	44	-	-
19	Pigons to St. Charles	60	60	-	-
20	St. Charles to Natashquan Point	-	-	-	-
21	Natashquan Point to Cape Whittle	-	-	-	-
22	Cape Whittle to Chicatica	-	-	-	-
23	Chicatica to Bonne Espérance	-	-	-	-
24	Bonne Espérance to Blanc Sablon	-	-	-	-
25	Anticosti Island	15	15	-	-
26	Total quantity	178	178	21	21
27	Total value $	1,194	1,568	63	105
	Rimouski (all)—				
28	Total quantity	62	62	-	-
29	Total value $	496	496	-	-

I. Fish Caught and Marketed, 1920

Herring							Mackerel				
Caught and landed	Marketed						Caught and landed	Marketed			
	Used fresh	Canned	Smoked	Pickled	Used as bait	Fertilizer		Used fresh	Salted	Canned	
cwt.	cwt.	cases	cwt.	bbl.	bbl.	bbl.	cwt.	cwt.	bbl.	cases	
221,551	1,960	3,560	12,819	8,672	63,332	20,575	40,294	1,345	12,741	789	1
134,503	2,550	17,800	69,267	48,240	49,737	18,075	174,550	6,890	212,832	4,734	2
–	–	–	–	–	–	–	–	–	–	–	3
22,430	40	–	–	310	630	10,100	115	115	–	–	4
7,664	80	–	–	450	1,752	1,500	660	465	65	–	5
30,094	120	–	–	760	2,382	11,600	775	580	65	–	6
15,049	120	–	–	5,010	3,012	11,600	3,990	4,640	1,170	–	7
4,135	185	–	–	450	1,300	–	579	–	193	–	8
8,325	125	–	–	500	3,350	–	225	–	75	–	9
6,025	300	–	–	375	1,800	500	–	–	–	–	10
18,485	610	–	–	1,325	6,450	500	804	–	268	–	11
18,485	1,245	–	–	9,450	12,900	1,000	4,020	–	4,824	–	12
125,400	600	3,560	11,454	4,500	38,600	4,500	25,800	750	8,108	789	13
37,280	250	–	1,340	650	14,700	1,500	12,900	–	4,300	–	14
162,680	850	3,560	12,794	5,150	53,300	6,000	38,700	750	12,408	789	15
90,152	425	17,800	69,117	25,750	30,950	3,000	166,450	2,100	206,838	4,734	16
525	120	–	25	68	75	–	15	15	–	–	17
216	50	–	–	52	5	–	–	–	–	–	18
–	–	–	–	–	–	–	–	–	–	–	19
126	–	–	–	42	–	–	–	–	–	–	20
100	–	–	–	–	50	–	–	–	–	–	21
520	–	–	–	40	200	–	–	–	–	–	22
175	–	–	–	25	50	–	–	–	–	–	23
740	–	–	–	130	175	–	–	–	–	–	24
85	45	–	–	–	20	–	–	–	–	–	25
2,487	215	–	25	357	575	–	15	15	–	–	26
3,012	430	–	150	3,230	1,625	–	90	150	–	–	27
7,805	165	–	–	480	625	2,475	–	–	–	–	28
7,805	330	–	–	4,800	1,250	2,475	–	–	–	–	29

I. Fish Caught and Marketed, 1920

	Fishing Districts	Sardines		Salmon			
		Caught and landed	Marketed	Caught and landed	Marketed		
			Used fresh and salted		Used fresh	Canned	Pickled
	QUEBEC SEA FISHERIES—con.	bbl.	bbl.	cwt.	cwt.	cases	cwt.
1	**Total Sea Fisheries for Province—Quantity**	87	87	4,744	4,000	215	392
2	**Value** $	315	670	60,904	65,703	3,331	3,862
	Bonaventure—						
3	Head of tide to Miguacha	–	–	275	275	–	–
4	Miguacha to Paspebiac Point	–	–	690	688	3	–
6	Paspebiac Point to Point Maquereau	–	–	270	270	–	–
6	Total quantity	–	–	1,235	1,233	3	–
7	Total value $	–	–	24,700	28,505	45	–
	Gaspé (Mainland)—						
8	Point Maquereau to Barachois	–	–	100	100	–	–
9	Barachois to Fame Point	–	–	251	251	–	–
10	Fame Point to Cape Chat	–	–	120	120	–	–
11	Total quantity	–	–	471	471	–	–
12	Total value $	–	–	8,460	9,873	–	–
	Magdalen Islands—						
13	Southern Subdistrict	–	–	–	–	–	–
14	Northern Subdistrict	–	–	–	–	–	–
15	Total quantity	–	–	–	–	–	–
16	Total value $	–	–	–	–	–	–
	Saguenay—						
17	Tadoussac to Jambons	27	27	1,000	1,000	–	–
18	Jambons to Pigons	–	–	800	800	–	–
19	Pigons to St. Charles	–	–	188	110	–	52
20	St. Charles to Natashquan Point	60	60	217	128	106	–
21	Natashquan Point to Cape Whittle	–	–	195	130	106	–
22	Cape Whittle to Chicatica	–	–	234	–	–	156
23	Chicatica to Bonne Espérance	–	–	225	33	–	128
24	Bonne Espérance to Blanc Sablon	–	–	84	–	–	56
25	Anticosti Island	–	–	40	40	–	–
26	Total quantity	87	87	2,983	2,241	212	392
27	Total value $	315	670	27,084	26,500	3,286	3,862
	Rimouski (all)—						
28	Total quantity	–	–	55	55	–	–
29	Total value $	–	–	660	825	–	–

I. Fish Caught and Marketed, 1920

Smelts		Sturgeon		Trout		Caplin		
Caught and landed	Marketed: Used fresh	Caught and landed	Marketed: Used fresh	Caught and landed	Marketed: Used fresh	Caught and landed	Marketed: Used fresh	
cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	bbl.	bbl.	
1,810	**1,810**	**180**	**180**	**167**	**167**	**7,835**	**7,835**	**1**
20,061	**24,160**	**900**	**1,440**	**1,384**	**1,794**	**13,505**	**17,060**	**2**
195	195	-	-	32	32	-	-	3
75	75	-	-	-	-	650	650	4
759	759	-	-	-	-	950	950	5
1,029	1,029	-	-	32	32	1,600	1,600	6
11,199	13,917	-	-	320	384	1,600	1,600	7
216	216	-	-	-	-	-	-	8
125	125	-	-	-	-	-	-	9
-	-	-	-	-	-	-	-	10
341	341	-	-	-	-	-	-	11
5,092	5,683	-	-	-	-	-	-	12
90	90	-	-	-	-	-	-	13
-	-	-	-	-	-	-	-	14
90	90	-	-	-	-	-	-	15
270	360	-	-	-	-	-	-	16
350	350	180	180	43	43	315	315	17
-	-	-	-	-	-	25	25	18
-	-	-	-	-	-	3,200	3,200	19
-	-	-	-	-	-	140	140	20
-	-	-	-	-	-	25	25	21
-	-	-	-	-	-	600	600	22
-	-	-	-	40	40	1,500	1,500	23
-	-	-	-	10	10	40	40	24
-	-	-	-	-	-	-	-	25
350	350	180	180	93	93	5,845	5,845	26
3,500	4,200	900	1,440	644	906	11,375	14,930	27
-	-	-	-	42	42	390	390	28
-	-	-	-	420	504	530	530	29

I. Fish Caught and Marketed, 1920

	Fishing Districts	Eels		Squid		Tom Cod		Mixed Fish	
		Caught and landed	Marketed / Used fresh	Caught and landed	Marketed / Used fresh	Caught and landed	Marketed / Used fresh	Caught and landed	Marketed / Used fresh
	QUEBEC SEA FISHERIES—concluded.	cwt.	cwt.	bbl.	bbl.	cwt.	cwt.	cwt.	cwt.
1	**Total Sea Fisheries for Province—Quantity**	84	84	3,204	3,204	4	4	200	200
2	**Value... $**	504	672	6,918	6,978	12	20	840	1,160
	Bonaventure—								
3	Head of tide to Miguacha	78	78	–	–	–	–	120	120
4	Miguacha to Paspebiac Point	–	–	–	–	–	–	–	–
5	Paspebiac Point to Point Maquereau	–	–	350	350	–	–	–	–
6	Total quantity	78	78	350	350	–	–	120	120
7	Total value $	468	624	1,050	1,050	–	–	600	840
	Gaspé (Mainland)—								
8	Point Maquereau to Barachois	–	–	585	585	–	–	–	–
9	Barachois to Fame Point	–	–	2,100	2,100	–	–	–	–
10	Fame Point to Cape Chat	–	–	50	50	–	–	–	–
11	Total quantity	–	–	2,735	2,735	–	–	–	–
12	Total value $	–	–	5,620	5,620	–	–	–	–
	Magdalen Islands—								
13	Southern Sub-district	–	–	–	–	–	–	–	–
14	Northern Sub-district	–	–	–	–	–	–	–	–
15	Total quantity	–	–	–	–	–	–	–	–
16	Total value $	–	–	–	–	–	–	–	–
	Saguenay—								
17	Tadoussac to Jambons	6	6	74	74	4	4	80	80
18	Jambons to Pigons	–	–	15	15	–	–	–	–
19	Pigons to St. Charles	–	–	–	–	–	–	–	–
20	St. Charles to Natashquan Point	–	–	–	–	–	–	–	–
21	Natashquan Point to Cape Whittle	–	–	–	–	–	–	–	–
22	Cape Whittle to Chicatica	–	–	30	30	–	–	–	–
23	Chicatica to Bonne Espérance	–	–	–	–	–	–	–	–
24	Bonne Espérance to Blanc Sablon	–	–	–	–	–	–	–	–
25	Anticosti Island	–	–	–	–	–	–	–	–
26	Total quantity	6	6	119	119	4	4	80	80
27	Total value $	36	48	248	308	12	20	240	320
	Rimouski (all)—								
28	Totalquantity	–	–	–	–	–	–	–	–
29	Total value $	–	–	–	–	–	–	–	–

I. Fish Caught and Marketed, 1920

Clams and Quahaugs		Lobsters				Hair Seals			Porpoises			Fish Oil	Fish Skins	
Caught and landed	Marketed	Caught and landed	Marketed			Caught and landed	Marketed		Caught and landed	Marketed		Marketed	Marketed	
	Used fresh		In Shell	Canned	Tomalley		Skins	Oil		Skins	Oil			
bbl.	bbl.	cwt.	cwt.	cases	cases	no.	no.	gal.	no.	no.	gal.	gal.	cwt.	
1,183	1,183	38,510	269	19,192	370	2,629	2,629	5,769	186	186	3,720	77,086	67	1
4,396	4,499	400,863	2,415	657,908	3,359	9,626	10,179	5,769	4,650	2,790	3,720	77,086	127	2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
-	-	123	5	32	-	-	-	-	-	-	-	1,800	-	4
-	-	1,124	64	568	-	-	-	-	-	-	-	4,641	-	5
-	-	1,247	69	600	-	-	-	-	-	-	-	6,441	-	6
-	-	12,470	690	18,645	-	-	-	-	-	-	-	6,441	-	7
-	-	2,475	100	1,186	-	-	-	-	-	-	-	15,025	67	8
-	-	685	100	292	-	-	-	-	-	-	-	11,250	-	9
-	-	-	-	-	-	-	-	-	-	-	-	6,000	-	10
-	-	3,160	200	1,478	-	-	-	-	-	-	-	32,275	67	11
-	-	31,600	1,725	56,304	-	-	-	-	-	-	-	32,275	127	12
950	950	14,908	-	7,454	122	-	-	-	-	-	-	4,500	-	13
-	-	18,206	-	9,164	248	-	-	-	-	-	-	500	-	14
950	950	33,114	-	16,618	370	-	-	-	-	-	-	5,000	-	15
3,800	3,800	347,697	-	569,007	3,359	-	-	-	-	-	-	5,000	-	16
103	103	-	-	-	-	538	538	1,520	186	186	3,720	1,850	-	17
-	-	-	-	-	-	87	87	155	-	-	-	1,240	-	18
-	-	-	-	-	-	630	630	875	-	-	-	11,850	-	19
55	55	122	-	61	-	375	375	640	-	-	-	3,240	-	20
-	-	275	-	139	-	60	60	120	-	-	-	1,400	-	21
-	-	562	-	281	-	220	220	350	-	-	-	2,400	-	22
75	75	30	-	15	-	278	278	850	-	-	-	2,690	-	23
-	-	-	-	-	-	356	356	1,089	-	-	-	5,900	-	24
-	-	-	-	-	-	85	85	170	-	-	-	-	-	25
233	233	989	-	496	-	2,629	2,629	5,769	186	186	3,720	30,570	-	26
596	699	9,096	-	13,952	-	9,626	10,179	5,769	4,650	2,790	3,720	30,570	-	27
-	-	-	-	-	-	-	-	-	-	-	-	2,800	-	28
-	-	-	-	-	-	-	-	-	-	-	-	2,800	-	29

I. Fish Caught and Marketed, 1920

	Fishing Districts		Bass	Carp	Cat-fish	Eels	Herr-ing	Maski-nonge	Mixed fish
	Quebec—Inland Fisheries[1]		cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
	Total Inland Fisheries for Province—								
1	**Quantity**		355	813	581	6,050	1,650	4	2,777
2	**Value caught and landed**	$	5,500	7,263	5,959	52,760	4,950	78	26,453
3	**Value marketed**	$	5,591	8,289	5,959	62,775	7,500	78	27,961
	Below Quebec—								
4	Temiscouata County	quantity	–	–	–	25	1,200	–	235
5		value $	–	–	–	300	4,800	–	2,350
6	Kamouraska County	quantity	–	–	–	510	450	–	240
7		value $	–	–	–	5,100	2,700	–	2,400
8	L'Islet County	quantity	–	10	–	255	–	–	115
9		value $	–	100	–	2,550	–	–	1,150
10	Montmagny County	quantity	–	14	–	460	–	–	30
11		value $	–	140	–	4,600	–	–	300
12	Bellechasse County	quantity	13	–	–	1,085	–	–	24
13		value $	156	–	–	13,020	–	–	240
14	Montmorency County	quantity	13	–	–	1,350	–	–	15
15		value $	195	–	–	13,500	–	–	150
16	Charlevoix County	quantity	–	10	–	350	–	–	40
17		value $	–	100	–	3,500	–	–	400
18	Chicoutimi County	quantity	–	–	–	90	–	–	15
19		value $	–	–	–	900	–	–	150
20	Total quantity		26	34	–	4,125	1,650	–	714
21	Total value marketed	$	351	340	–	43,470	7,500	–	7,140
	Above Quebec—								
22	Maskinonge County	quantity	–	–	–	–	–	–	354
23		value $	–	–	–	–	–	–	8,850
24	Berthier County	quantity	–	5	4	7	–	–	25
25		value $	–	60	60	105	–	–	608
26	L'Assomption County	quantity	–	27	16	1	–	–	6
27		value $	–	266	215	14	–	–	60
28	Argenteuil County	quantity	–	3	29	–	–	–	–
29		value $	–	25	274	–	–	–	–
30	Labelle County	quantity	–	1	232	1	–	–	33
31		value $	–	10	2,325	5	–	–	298
32	Temiscamingue County	quantity	–	–	–	–	–	–	130
33		value $	–	–	–	–	–	–	1,000
34	Pontiac County	quantity	–	–	–	–	–	–	704
35		value $	–	–	–	–	–	–	4,071
36	Vaudreuil County	quantity	–	43	34	–	–	–	84
37		value $	–	350	340	–	–	–	586
38	Vercheres County	quantity	–	29	13	1	–	–	2
39		value $	–	526	156	17	–	–	26
40	Soulanges County	quantity	–	30	1	2	–	–	–
41		value $	–	300	16	20	–	–	–
42	Beauharnois County	quantity	–	–	1	18	–	–	9
43		value $	–	–	10	140	–	–	89
44	Chateauguay County	quantity	–	375	217	70	–	–	–
45		value $	–	3,750	2,170	700	–	–	–
46	Laprairie County	quantity	–	69	–	–	–	–	–
47		value $	–	692	–	–	–	–	–
48	Chambly County	quantity	1	165	8	7	–	–	50
49		value $	20	1,650	121	80	–	–	550
50	Yamaska County	quantity	–	–	–	54	–	4	484
51		value $	–	–	–	542	–	78	3,388
52	Nicolet County	quantity	–	32	26	42	–	–	102
53		value $	–	320	272	465	–	–	838
54	Levis County	quantity	–	–	–	536	–	–	76
55		value $	–	–	–	5,359	–	–	377
56	Iberville County	quantity	–	–	–	1,186	–	–	–
57		value $	–	–	–	11,858	–	–	–
58	Lac St-Jean County	quantity	328	–	–	–	–	–	4
59		value $	5,220	–	–	–	–	–	80
60	Total quantity		329	779	581	1,925	–	4	2,063
61	Total value marketed	$	5,240	7,949	5,959	19,305	–	78	20,821

[1]The values given for the counties are the marketed values. For the total inland fisheries for the province the values are given as "caught and landed" and as "marketed."

I. Fish Caught and Marketed, 1920

Perch	Pickerel	Pike	Porpoises	Salmon	Shad	Sturgeon	Smelts	Trout	Whitefish	
cwt.	cwt.	cwt.	no.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	
337	466	565	74	183	1,048	613	62	44	271	1
3,542	8,855	6,646	3,700	2,256	10,454	7,195	620	495	2,699	2
3,568	9,673	6,734	4,440	2,775	12,704	9,010	741	660	3,199	3
-	-	-	6	-	-	-	20	10	-	4
-	-	-	260	-	-	-	240	150	-	5
-	-	-	7	-	215	-	22	8	-	6
-	-	-	420	-	2,580	-	264	120	-	7
-	-	-	-	-	25	23	20	-	-	8
-	-	-	-	-	300	276	240	-	-	9
-	-	-	-	-	260	75	-	-	6	10
-	-	-	-	-	3,120	900	-	-	90	11
-	-	-	-	-	390	140	-	-	175	12
-	-	-	-	-	4,680	1,400	-	-	1,750	13
-	-	-	-	-	20	30	-	-	-	14
-	-	-	-	-	240	390	-	-	-	15
-	-	-	-	8	-	10	-	-	-	16
-	-	-	-	120	-	100	-	-	-	17
-	-	-	61	165	-	-	-	25	-	18
-	-	-	3,660	2,475	-	-	-	375	-	19
-	-	-	74	173	910	278	62	43	181	20
-	-	-	4,440	2,595	10,920	3,066	744	645	1,840	21
-	-	-	-	-	-	-	-	-	-	22
-	-	-	-	-	-	-	-	-	-	23
15	-	6	-	-	6	1	-	-	-	24
250	-	90	-	-	94	24	-	-	-	25
3	2	4	-	-	74	4	-	-	4	26
32	48	48	-	-	1,110	75	-	-	52	27
8	-	2	-	-	-	1	-	-	-	28
50	-	12	-	-	-	12	-	-	-	29
4	-	13	-	-	-	4	-	-	-	30
40	-	120	-	-	-	80	-	-	-	31
-	-	-	-	-	-	-	-	-	-	32
-	-	-	-	-	-	-	-	-	-	33
-	400	320	-	-	-	140	-	-	60	34
-	8,800	3,840	-	-	-	3,000	-	-	900	35
14	-	18	-	-	-	-	-	-	-	36
175	-	220	-	-	-	-	-	-	-	37
6	2	8	-	-	-	2	-	-	-	38
90	40	120	-	-	-	40	-	-	-	39
-	-	2	-	-	-	13	-	-	-	40
-	-	30	-	-	-	273	-	-	-	41
-	-	-	-	-	-	118	-	-	-	42
-	-	-	-	-	-	1,520	-	-	-	43
267	-	42	-	-	-	17	-	-	-	44
2,670	-	504	-	-	-	340	-	-	-	45
-	-	-	-	-	-	-	-	-	-	46
-	-	-	-	-	-	-	-	-	-	47
6	1	4	-	-	-	-	-	-	-	48
93	20	51	-	-	-	-	-	-	-	49
-	27	114	-	-	-	10	-	-	2	50
-	400	1,365	-	-	-	200	-	-	30	51
14	5	13	-	-	58	15	-	-	-	52
168	75	140	-	-	580	180	-	-	-	53
-	10	1	-	10	-	10	-	1	15	54
-	100	14	-	180	-	200	-	15	197	55
-	-	-	-	-	-	-	-	-	-	56
-	-	-	-	-	-	-	-	-	-	57
-	19	18	-	-	-	-	-	-	9	58
-	190	180	-	-	-	-	-	-	180	59
337	466	565	-	10	138	335	-	1	90	60
3,568	9,673	6,734	-	180	1,784	5,944	-	15	1,359	61

I. Fish Caught and Marketed, 1920

	Fishing Districts		Carp	Catfish	Eels	Herring: Caught and landed	Herring: Marketed Fresh	Herring: Marketed Salted	Mixed Fish.
	ONTARIO[1]		cwt.	cwt.	cwt.	cwt.	cwt.	bbl.	cwt.
	Totals for Province—								
1	**Quantity**		**11,087**	**5,442**	**1,775**	**134,594**	**125,113**	**6,321**	**30,674**
2	**Value caught and landed**	$	**44,348**	**32,652**	**17,750**	**672,970**	**–**	**–**	**122,696**
3	**Value marketed**	$	**44,348**	**38,094**	**21,300**	**–**	**750,678**	**37,926**	**122,696**
4	Kenora and Rainy River Districts—	quantity	94	530	–	–	–	–	1,912
5		value $	376	3,710	–	–	–	–	7,648
6	Lake Superior	quantity	–	–	205	–	12,869	6,166	1,149
7		value $	–	–	2,460	–	77,214	36,996	4,596
8	Lake Huron (North Channel)	quantity	172	17	–	–	242	2	4,208
9		value $	688	119	–	–	1,452	12	16,832
10	Georgian Bay	quantity	543	24	–	–	493	36	434
11		value $	2,172	168	–	–	2,958	216	1,736
12	Lake Huron (proper)	quantity	40	2	–	–	1,726	77	991
13		value $	160	14	–	–	10,356	462	3,964
14	Lake St. Clair, etc.	quantity	3,954	1,412	–	–	4	–	6,031
15		value $	15,816	9,884	–	–	24	–	24,124
16	Lake Erie	quantity	4,319	421	387	–	96,513	–	9,005
17		value $	17,276	2,947	4,644	–	579,078	–	36,020
18	Lake Ontario	quantity	657	1,702	919	–	12,876	36	4,138
19		value $	2,628	11,914	11,028	–	77,256	216	16,552
20	Inland waters	quantity	1,308	1,334	264	–	390	4	2,806
21		value $	5,232	9,338	3,168	–	2,340	24	11,224

	Fishing Districts		Catfish	Goldeyes: Caught and landed	Goldeyes: Marketed Fresh	Goldeyes: Marketed Smoked	Mixed Fish
	MANITOBA[1]		cwt.	cwt.	cwt.	cwt.	cwt.
	Totals for Province—						
1	**Quantity**		**240**	**4,593**	**2,103**	**1,245**	**960**
2	**Value caught and landed**	$	**2,430**	**15,303**	**–**	**–**	**3,350**
3	**Value marketed**	$	**2,760**	**–**	**10,415**	**22,829**	**4,350**
	SUMMER						
4	Buffalo Bay	quantity	–	–	2	–	–
5		value $	–	–	20	–	–
6	The Pas	quantity	–	–	–	–	–
7		value $	–	–	–	–	–
8	Lake Winnipegosia	quantity	–	–	–	–	–
9		value $	–	–	–	–	–
10	Lake Winnipeg	quantity	240	–	80	1,245	260
11		value $	2,760	–	320	22,829	850
12	Total quantity		240	–	82	1,245	260
13	Total value marketed	$	2,760	–	340	22,829	850
	WINTER						
14	Lake Winnipeg	quantity	–	–	1,530	–	700
15		value $	–	–	7,650	–	3,500
16	Lake Winnipegosis	quantity	–	–	190	–	–
17		value $	–	–	950	–	–
18	The Pas	quantity	–	–	–	–	–
19		value $	–	–	–	–	–
20	Buffalo Bay	quantity	–	–	–	–	–
21		value $	–	–	–	–	–
22	Lake Manitoba	quantity	–	–	–	–	–
23		value $	–	–	–	–	–
24	Lake St. Martin	quantity	–	–	–	–	–
25		value $	–	–	–	–	–
26	Lake Waterhen	quantity	–	–	–	–	–
27		value $	–	–	–	–	–
28	Lake Dauphin	quantity	–	–	276	–	–
29		value $	–	–	1,380	–	–
30	Red Deer Lake	quantity	–	–	25	–	–
31		value $	–	–	125	–	–
32	Total quantity		–	–	2,021	–	700
33	Total value marketed	$	–	–	10,105	–	3,500

[1]For the Districts the quantities and values as "Marketed" are given. The totals for the Province show quantities and values as "Caught and landed" and as "Marketed."

[2]In addition to the above, 4,940 cwt. of fish, valued at $17,800 were taken in Manitoba under Settlers' permits, and 120 cwt. valued at $600 by anglers.

I. Fish Caught and Marketed, 1920

Perch	Pickerel or Doré	Pickerel (Blue)	Pike	Sturgeon	Sturgeon bladders	Caviar	Trout			Whitefish			Tullibee	
							Caught and landed	Marketed		Caught and landed	Marketed			
								Fresh	Salted		Fresh	Salted		
cwt.	cwt.	cwt.	cwt.	cwt.	no.	lb.	cwt.	cwt.	bbl.	cwt.	cwt.	bbl.	cwt.	
17,947	**16,052**	**33,795**	**12,241**	**1,889**	**438**	**5,741**	**51,380**	**47,990**	**2,260**	**69,786**	**64,538**	**3,499**	**4,327**	1
143,576	**160,520**	**202,770**	**61,205**	**22,668**	**–**	**–**	**513,800**	**–**	**–**	**697,860**	**–**	**–**	**34,616**	2
179,470	**208,676**	**236,565**	**85,687**	**28,335**	**219**	**5,741**	**–**	**623,870**	**29,380**	**–**	**838,994**	**45,487**	**38,943**	3
123	6,490	53	4,494	93	198	379	–	1,232	–	–	3,982	3,194	1,294	4
1,230	84,370	371	31,458	1,395	99	379	–	16,016	–	–	51,766	41,522	11,646	5
–	1,188	73	153	306	–	202	–	13,324	1,457	–	17,047	2	–	6
–	15,444	511	1,071	4,590	–	202	–	173,212	18,941	–	221,611	26	–	7
84	2,420	–	685	138	–	138	–	11,078	10	–	9,027	6	207	8
840	31,460	–	4,795	2,070	–	138	–	144,014	130	–	117,351	78	1,863	9
41	673	–	442	26	–	30	–	9,721	184	–	4,453	59	763	10
410	8,749	–	3,094	390	–	30	–	126,373	2,392	–	57,889	767	6,867	11
1,291	1,390	22	50	92	–	649	–	7,902	568	–	822	9	2,060	12
12,910	18,148	154	350	1,380	–	649	–	102,726	7,384	–	10,686	117	18,540	13
2,316	270	4	1,076	130	–	526	–	–	–	–	73	–	–	14
23,160	3,510	28	7,532	1,950	–	526	–	–	–	–	949	–	–	15
12,722	1,660	33,545	1,152	3	–	–	–	10	–	–	8,183	200	–	16
127,220	21,580	234,815	8,064	45	–	–	–	130	–	–	106,379	2,600	–	17
1,074	366	98	3,114	5	240	338	–	4,587	33	–	20,241	29	3	18
10,740	4,758	686	21,798	75	120	338	–	59,631	429	–	263,133	377	27	19
296	1,589	–	1,075	1,096	–	3,482	–	136	8	–	710	–	–	20
2,960	20,657	–	7,525	16,440	–	3,482	–	1,768	104	–	9,230	–	–	21

Mullets	Perch	Pickerel	Pike	Sturgeon	Caviar	Trout	Tullibee			Whitefish	
							Caught and landed	Marketed			
								Fresh	Smoked		
cwt.	cwt.	cwt.	cwt.	cwt.	lb.	cwt.	cwt.	cwt.	cwt.	cwt.	
22,028	**671**	**39,070**	**25,535**	**397**	**200**	**463**	**33,386**	**33,312**	**37**	**43,358**	1
32,951	**6,001**	**266,823**	**90,855**	**9,805**	**–**	**3,704**	**167,250**	**–**	**–**	**280,906**	2
49,514	**7,210**	**355,358**	**137,622**	**11,116**	**400**	**4,167**	**–**	**201,169**	**675**	**441,992**	3
12	2	38	44	–	–	–	–	4	–	3	4
24	20	530	220	–	–	–	–	12	–	33	5
–	–	–	–	322	200	–	–	–	–	–	6
–	–	–	–	9,016	400	–	–	–	–	–	7
1,533	–	4,270	1,470	–	–	–	–	–	–	1,072	8
3,066	–	40,565	7,350	–	–	–	–	–	–	11,256	9
2,100	20	9,840	820	75	–	–	–	1,456	37	26,150	10
5,250	200	93,480	5,740	2,100	–	–	–	10,192	675	274,575	11
3,645	22	14,148	2,334	397	200	–	–	1,460	37	27,225	12
8,340	220	134,575	13,310	11,116	400	–	–	10,204	675	285,864	13
8,000	45	7,020	2,730	–	–	–		25,490		2,880	14
20,000	450	63,180	15,010	–	–	–		152,940		31,680	15
8,661	–	9,434	13,533	–	–	–	–	156	–	8,341	16
17,322	–	84,906	70,898	–	–	–	–	936	–	83,410	17
834	–	1,161	956	–	–	463	–	132	–	3,226	18
1,668	–	10,449	5,736	–	–	4,167	–	660	–	25,808	19
–	–	17	5	–	–	–	–	5	–	–	20
–	–	238	25	–	–	–	–	15	–	–	21
805	500	5,630	5,000	–	–	–	–	5,650	–	530	22
2,015	5,500	46,300	27,500	–	–	–	–	33,900	–	4,770	23
6	104	770	580	–	–	–	–	110	–	1,100	24
15	1,040	7,700	3,190	–	–	–	–	660	–	9,900	25
30	–	147	264	–	–	–	–	–	–	50	26
60	–	1,323	1,188	–	–	–	–	–	–	500	27
38	–	559	22	–	–	–	–	309	–	–	28
76	–	5,031	99	–	–	–	–	1,854	–	–	29
9	–	184	111	–	–	–	–	–	–	6	30
18	–	1,656	666	–	–	–	–	–	–	60	31
18,383	649	24,922	23,201	–	–	463	–	31,852	–	16,133	32
41,174	6,990	220,783	124,312	–	–	4,167	–	190,965	–	156,128	33

I. Fish Caught and Marketed, 1920

	Fishing Districts		Goldeyes	Mixed Fish	Mullets
	SASKATCHEWAN[1]		cwt.	cwt.	cwt.
1	**Totals for Province—Quantity**		20	1,790	2,155
2	**Value caught and landed**	$	200	2,701	6,182
3	**Value marketed**	$	240	4,091	12,602
	SUMMER				
4	Jackfish Lake District	quantity	-	19	20
5		value $	-	76	100
6	Turtle Lake District	quantity	-	10	18
7		value $	-	40	90
8	Okemasis Lake District	quantity	-	70	-
9		value $	-	70	-
10	Lowes Lake District	quantity	-	-	-
11		value $	-	-	-
12	Saskatchewan River District	quantity	20	92	130
13		value $	240	552	1,300
14	Total quantity		20	191	168
15	Total value marketed	$	240	738	1,490
	WINTER				
16	Des Iles Lake District	quantity	-	24	30
17		value $	-	96	150
18	Onion Lake District	quantity	-	39	27
19		value $	-	156	135
20	Jackfish Lake District	quantity	-	80	160
21		value $	-	320	800
22	Turtle Lake District	quantity	-	119	138
23		value $	-	476	690
24	Waterhen Lake District	quantity	-	111	130
25		value $	-	555	650
26	Ile à La Crosse District	quantity	-	116	180
27		value $	-	116	1,260
28	Doré Lake District	quantity	-	653	362
29		value $	-	653	2,172
30	Okemasis Lake District	quantity	-	85	23
31		value $	-	85	92
32	Montreal Lake District	quantity	-	162	139
33		value $	-	324	834
34	Candle Lake District	quantity	-	60	38
35		value $	-	300	266
36	Wabaw Lake District	quantity	-	8	15
37		value $	-	40	120
38	Lac La Ronge District	quantity	-	90	160
39		value $	-	180	800
40	Green Lake District	quantity	-	52	22
41		value $	-	52	88
42	Lowes Lake District	quantity	-	-	110
43		value $	-	-	990
44	Qu'Appelle Lake District	quantity	-	-	7
45		value $	-	-	42
46	Devils and Fishing Lakes District	quantity	-	-	436
47		value $	-	-	1,963
48	Katepwe District	quantity	-	-	10
49		value $	-	-	60
50	Total quantity		-	1,599	1,987
51	Total value marketed	$	-	3,353	11,112

NOTE.—In addition to the above there were taken in Saskatchewan under domestic license 10,455 cwt. of fish valued at $51,455; and under anglers' permits 6,228 cwt. valued at $13,442.

[1]The values given for the Districts are the marketed values. For the total fisheries for the province the values are given as "caught and landed" and as "marketed."

I. Fish Caught and Marketed, 1920

Perch	Pickerel	Pike	Sturgeon	Trout	Tullibee	Whitefish	
cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	
-	3,646	3,254	56	912	248	24,206	1
-	19,138	13,244	560	5,268	1,178	127,646	2
-	31,926	23,459	840	8,492	1,953	212,869	3
-	19	19	-	-	-	115	4
-	171	133	-	-	-	1,035	5
-	10	15	-	-	-	212	6
-	90	105	-	-	-	1,908	7
-	114	49	-	-	-	1,150	8
-	1,026	343	-	-	-	10,350	9
-	120	230	-	-	9	1,269	10
-	1,080	2,070	-	-	45	11,421	11
-	4	21	56	-	-	5	12
-	48	210	840	-	-	60	13
-	267	334	56	-	9	2,751	14
-	2,415	2,861	840	-	45	24,774	15
-	12	24	-	24	-	180	16
-	108	168	-	288	-	1,620	17
-	52	69	-	-	12	280	18
-	364	483	-	-	108	2,520	19
-	232	162	-	-	-	1,355	20
-	2,088	1,134	-	-	-	12,195	21
-	16	144	-	-	-	2,174	22
-	144	1,008	-	-	-	19,575	23
-	147	198	-	-	24	4,626	24
-	1,323	1,584	-	-	168	41,634	25
-	220	180	-	-	74	2,039	26
-	1,760	1,260	-	-	518	16,312	27
-	2,042	1,251	-	136	-	7,192	28
-	17,357	7,506	-	1,156	-	61,132	29
-	121	96	-	-	34	1,501	30
-	1,028	576	-	-	204	12,758	31
-	206	214	-	472	-	732	32
-	1,854	1,712	-	4,248	-	6,588	33
-	69	128	-	-	-	227	34
-	759	1,280	-	-	-	2,724	35
-	-	-	-	-	-	-	36
-	-	-	-	-	-	-	37
-	145	175	-	280	-	530	38
-	1,450	1,400	-	2,800	-	5,300	39
-	14	32	-	-	10	300	40
-	119	192	-	-	60	2,550	41
-	24	145	-	-	-	240	42
-	216	1,275	-	-	-	2,160	43
-	72	35	-	-	63	65	44
-	864	350	-	-	630	845	45
-	-	-	-	-	-	-	46
-	-	-	-	-	-	-	47
-	7	67	-	-	22	14	48
-	77	670	-	-	220	182	49
-	3,379	2,920	-	912	239	21,455	50
-	29,511	20,598	-	8,492	1,908	188,095	51

I. Fish Caught and Marketed, 1920

	Fishing Districts		Goldeyes	Mixed Fish	Mullets
	ALBERTA[1]		cwt.	cwt.	cwt.
1	**Totals for Province—Quantity**		–	–	–
2	**Value caught and landed**	$	–	–	–
3	**Value marketed**	$	–	–	–
	SUMMER				
4	Wabamun District	quantity	–	–	–
5		value $	–	–	–
6	Lesser Slave Lake District	quantity	–	–	–
7		value $	–	–	–
8	Lac Ste. Anne District	quantity	–	–	–
9		value $	–	–	–
10	Lac La Biche District	quantity	–	–	–
11		value $	–	–	–
12	Total quantity		–	–	–
13	Total value marketed	$	–	–	–
	WINTER				
14	Wabamun District	quantity	–	–	–
15		value $	–	–	–
16	Lesser Slave Lake District	quantity	–	–	–
17		value $	–	–	–
18	Athabasca District	quantity	–	–	–
19		value $	–	–	–
20	Buffalo Lake District	quantity	–	–	–
21		value $	–	–	–
22	Cold Lake District	quantity	–	–	–
23		value $	–	–	–
24	Edson District	quantity	–	–	–
25		value $	–	–	–
26	Ministik Lake District	quantity	–	–	–
27		value $	–	–	–
28	Moose Lake District	quantity	–	–	–
29		value $	–	–	–
30	Pigeon Lake District	quantity	–	–	–
31		value $	–	–	–
32	Saddle Lake District	quantity	–	–	–
33		value $	–	–	–
34	Sturgeon River District	quantity	–	–	–
35		value $	–	–	–
36	Trout Lake Dietrict	quantity	–	–	–
37		value $	–	–	–
38	Sturgeon Lake District	quantity	–	–	–
39		value $	–	–	–
40	Total quantity		–	–	–
41	Total value marketed	$	–	–	–
	YUKON TERRITORY				
42	**Totals for Territory—Quantity**		–	**60**	–
43	**Value caught and landed**	$	–	**1,200**	–
44	**Value marketed**	$	–	**1,200**	–

NOTE:—In addition to the above there were taken in Alberta under domestic license, 3,064 cwt. of fish valued at $17,951; and under anglers permits, 1,239 cwt. valued at $18,585.

[1]The values given for the Districts are the marketed values. For the total fisheries of the province the values are given as "caught and landed" and as "marketed".

I. Fish Caught and Marketed, 1920

Perch	Pickerel	Pike	Salmon	Sturgeon	Trout	Tullibee	Whitefish	
cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	
-	2,461	2,096	-	-	1,930	627	43,941	1
-	11,598	5,705	-	-	10,200	2,103	201,981	2
-	23,594	11,394	-	-	22,593	3,579	467,918	3
-	25	180	-	-	-	-	920	4
-	250	720	-	-	-	-	10,580	5
-	561	155	-	-	3	-	15,108	6
-	5,610	930	-	-	36	-	166,188	7
-	724	42	-	-	-	-	1,450	8
-	7,240	168	-	-	-	-	16,675	9
-	709	205	-	-	-	25	1,720	10
-	7,090	1,230	-	-	-	75	20,640	11
-	2,019	582	-	-	3	25	19,198	12
-	20,190	3,048	-	-	36	75	214,083	13
-	18	115	-	-	-	-	520	14
-	180	805	-	-	-	-	6,240	15
-	35	80	-	-	860	282	705	16
-	280	400	-	-	10,320	1,974	5,640	17
-	220	380	-	-	-	200	750	18
-	1,540	1,900	-	-	-	1,000	4,550	19
-	22	37	-	-	-	-	17,800	20
-	247	412	-	-	-	-	186,845	21
-	10	255	-	-	1,045	-	608	22
-	80	1,530	-	-	12,017	-	6,080	23
-	-	-	-	-	-	-	95	24
-	-	-	-	-	-	-	950	25
-	-	12	-	-	-	-	-	26
-	-	84	-	-	-	-	-	27
-	-	25	-	-	-	50	75	28
-	-	150	-	-	-	400	750	29
-	8	110	-	-	-	-	1,420	30
-	72	770	-	-	-	-	15,620	31
-	60	40	-	-	-	30	60	32
-	480	280	-	-	-	90	600	33
-	7	85	-	-	-	-	-	34
-	35	340	-	-	-	-	-	35
-	60	375	-	-	22	40	2,650	36
-	480	1,675	-	-	220	40	26,500	37
-	2	-	-	-	-	-	60	38
-	10	-	-	-	-	-	60	39
-	442	1,514	-	-	1,927	602	24,743	40
-	3,404	8,346	-	-	22,557	3,504	253,835	41
-	-	-	2,100	-	150	-	170	42
-	-	-	24,000	-	3,700	-	4,200	43
-	-	-	24,000	-	3,709	-	4,200	44

I. Fish Caught and Marketed, 1920

	Fishing Districts	Cod				
		Caught and landed	Marketed			
			Used fresh	Green-salted	Smoked	Boneless
	BRITISH COLUMBIA	cwt.	cwt.	cwt.	cwt.	cwt.
1	**Totals for Province—Quantity**	34,102	33,321	14	278	17
2	Value $	232,749	318,589	100	3,810	238
3	District No. 1—Total quantity	17,745	17,477	14	65	-
4	Total value $	132,769	186,518	100	691	-
	District No. 2—					
5	Skeena River District	611	418	-	53	17
6	Rivers Inlet District	-	-	-	-	-
7	Naas River District	-	-	-	-	-
8	Bella Coola and Kimsquit	-	-	-	-	-
9	Addenbrooke Island to Lowe Inlet	5	5	-	-	-
10	Queen Charlotte Islands	-	-	-	-	-
11	Total quantity	616	423	-	53	17
12	Total value $	1,843	1,420	-	1,059	238
	District No. 3—					
13	Cape Scott to Tatchu Point	52	52	-	-	-
14	Tatchu Point to and including Wreck Bay	249	249	-	-	-
15	Wreck Bay to San Juan Harbour	787	787	-	-	-
16	Esquimalt Harbour to north side Cowichan Bay	3,291	2,971	-	160	-
17	Cowichan Bay to and including Big Qualicum River	4,037	4,037	-	-	-
18	Big Qualicum River to and including Oyster River	82	82	-	-	-
19	Oyster River to Adams River, with surrounding district	3,030	3,030	-	-	-
20	Adams River to Cape Scott, with surrounding district	28	28	-	-	-
21	Bute Inlet to Gower Point	4,185	4,185	-	-	-
22	Total quantity	15,741	15,421	-	160	-
23	Total value $	98,137	130,651	-	2,060	-

	Fishing Districts	Flounders, Brill, Plaice, etc.		Skate		Soles	
		Caught and landed	Marketed Used fresh	Caught and landed	Marketed Used fresh	Caught and landed	Marketed Used fresh
	BRITISH COLUMBIA—con.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
24	**Totals for Province—Quantity**	11,122	11,122	474	474	2,374	2,374
25	Value $	23,205	55,348	1,685	2,697	12,189	20,012
	District No. 1—						
26	Total quantity	122	122	181	181	1,528	1,528
27	Total value $	488	823	724	1,299	9,938	15,010
	District No. 2—						
28	Skeena River District	10,239	10,239	95	95	644	644
29	Rivers Inlet District	-	-	-	-	-	-
30	Naas River District	-	-	-	-	-	-
31	Bella Coola and Kimsquit	-	-	-	-	-	-
32	Addenbrooke Island to Lowe Inlet	68	68	-	-	-	-
33	Queen Charlotte Islands	-	-	-	-	-	-
34	Total quantity	10,307	10,307	95	95	644	644
35	Total value $	20,546	51,021	190	376	1,288	3,571
	District No. 3—						
36	Cape Scott to Tatchu Point	-	-	-	-	12	12
37	Tatchu Point to and including Wreck Bay	-	-	-	-	-	-
38	Wreck Bay to San Juan Harbour	-	-	-	-	-	-
39	Esquimalt Harbour to north side Cowichan Bay	92	92	120	120	156	156
40	Cowichan Bay to and including Big Qualicum River	6	6	2	2	34	34
41	Big Qualicum River to and including Oyster River	-	-	-	-	-	-
42	Oyster River to Adams River, with surrounding district	-	-	-	-	-	-
43	Adams River to Cape Scott, with surrounding district	24	24	-	-	-	-
44	Bute Inlet to Gower Point	571	571	76	76	-	-
45	Total quantity	693	693	198	198	202	202
46	Total value $	2,171	3,504	771	1,022	963	1,431

I. Fish Caught and Marketed, 1920

Hake and Cusk			Whiting		Halibut			
Caught and landed	Marketed		Caught and landed	Marketed	Caught and landed	Marketed		
	Used fresh	Smoked		Used fresh		Used fresh	Smoked.	
cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	
311	**11**	**150**	**36**	**36**	**238,770**	**238,646**	**41**	**1**
933	**55**	**1,200**	**198**	**274**	**3,185,726**	**4,104,138**	**731**	**2**
–	–	–	29	29	38,044	38,000	21	3
–	–	–	163	232	494,572	606,870	431	4
–	–	–	–	–	196,757	196,677	20	5
–	–	–	–	–	–	–	–	6
–	–	–	–	–	–	–	–	7
–	–	–	–	–	–	–	–	8
–	–	–	–	–	1,159	1,159	–	9
–	–	–	–	–	–	–	–	10
–	–	–	–	–	197,916	197,836	20	11
–	–	–	–	–	2,666,650	3,461,350	300	12
–	–	–	–	–	23	23	–	13
–	–	–	–	–	537	537	–	14
–	–	–	–	–	1,295	1,295	–	15
311	11	150	7	7	738	738	–	16
–	–	–	–	–	30	30	–	17
–	–	–	–	–	–	–	–	18
–	–	–	–	–	–	–	–	19
–	–	–	–	–	187	187	–	20
–	–	–	–	–	–	–	–	21
311	11	150	7	7	2,810	2,810	–	22
933	55	1,200	35	42	24,504	35,918	–	23

Herring								
Caught and landed	Marketed							
	Used fresh	Boneless	Canned	Smoked	Dry-salted	Pickled	Used as bait	
cwt.	cwt.	cwt.	cases	cwt.	cwt.	bbl.	bbl.	
1,001,357	**47,327**	**163**	**19,986**	**8,034**	**512,168**	**1,431**	**25,043**	**24**
867,951	**89,933**	**2,190**	**123,659**	**61,665**	**872,107**	**12,523**	**65,991**	**25**
22,583	7,144	95	–	6,645	807	199	–	26
67,749	29,868	1,510	–	49,838	3,453	1,686	–	27
20,500	–	–	–	81	1	–	10,168	28
–	–	–	–	–	–	–	–	29
–	–	–	–	–	–	–	–	30
–	–	–	–	–	–	–	–	31
8,080	–	–	–	–	–	–	4,040	32
–	–	–	–	–	–	–	–	33
28,580	–	–	–	81	1	–	14,208	34
31,373	–	–	–	1,210	8	–	38,024	35
–	–	–	–	–	–	–	–	36
–	–	–	–	–	–	–	–	37
639,579	34,562	68	19,986	10	334,720	1,232	9,280	38
1,822	922	–	–	450	–	–	–	39
305,900	3,186	–	–	158	176,640	–	1,555	40
–	–	–	–	–	–	–	–	41
–	–	–	–	–	–	–	–	42
–	–	–	–	–	–	–	–	43
2,893	1,513	–	–	690	–	–	–	44
950,194	40,183	68	19,986	1,308	511,360	1,232	10,835	45
768,829	60,125	680	123,659	10,617	868,646	10,837	27,970	46

I. Fish Caught and Marketed, 1920

	Fishing Districts	Pilchards					Bass	
		Caught and landed	Marketed				Caught and landed	Mark'd.
			Used fresh	Canned	Salted	Used as bait		Used fresh
	British Columbia—con.	cwt.	cwt.	cases	bbl.	bbl.	cwt.	cwt.
1	**Totals for Province—Quantity**	88,050	553	91,929	1,154	9,937	145	145
2	**Value** $	77,097	1,212	503,937	6,925	28,191	580	798
	District No. 1—							
3	Total quantity	153	153	-	-	-	-	-
4	Total value $	459	612	-	-	-	-	-
	District No. 2—							
5	Skeena River District	-	-	-	-	-	-	-
6	Rivers Inlet District	-	-	-	-	-	-	-
7	Naas River District	-	-	-	-	-	-	-
8	Bella Coola and Kimsquit	-	-	-	-	-	-	-
9	Addenbrooke Island to Lowe Inlet	-	-	-	-	-	-	-
10	Queen Charlotte Islands	-	-	-	-	-	-	-
11	Total quantity	-	-	-	-	-	-	-
12	Total value $	-	-	-	-	-	-	-
	District No. 3—							
13	Cape Scott to Tatchu Point	-	-	-	-	-	-	-
14	Tatchu Point to and including Wreck Bay	59,643	-	66,070	-	6,697	-	-
15	Wreck Bay to San Juan Harbour	28,245	400	25,859	1,150	3,240	-	-
16	Esquimalt Harbour to north side Cowichan Bay	9	-	-	4	-	145	145
17	Cowichan Bay to and including Big Qualicum river	-	-	-	-	-	-	-
18	Big Qualicum river to and including Oyster river	-	-	-	-	-	-	-
19	Oyster river to Adams river, with surrounding district	-	-	-	-	-	-	-
20	Adams river to Cape Scott with surrounding district	-	-	-	-	-	-	-
21	Bute Inlet to Gower Point	-	-	-	-	-	-	-
22	Total quantity	87,897	400	91,929	1,154	9,937	145	145
23	Total value $	76,638	600	503,937	6,925	28,191	580	798

	Fishing Districts	Shad		Smelts	
		Caught and landed	Marketed	Caught and landed	Marketed
			Used fresh		Used fresh
	British Columbia—con.	cwt.	cwt.	cwt.	cwt.
24	**Totals for Province—Quantity**	21	21	1,371	1,371
25	**Value** $	168	205	14,337	15,936
	District No. 1—				
26	Total quantity	21	21	1,246	1,246
27	Total value $	168	205	13,093	14,667
	District No. 2—				
28	Skeena River District	-	-	-	-
29	Rivers Inlet District	-	-	-	-
30	Naas River District	-	-	-	-
31	Bella Coola and Kimsquit	-	-	-	-
32	Addenbrooke Island to Lowe Inlet	-	-	-	-
33	Queen Charlotte Islands	-	-	-	-
34	Total quantity	-	-	-	-
35	Total value $	-	-	-	-
	District No. 3—				
36	Cape Scott to Tatchu Point	-	-	-	-
37	Tatchu Point to and including Wreck Bay	-	-	-	-
38	Wreck Bay to San Juan Harbour	-	-	-	-
39	Esquimalt Harbour to north side Cowichan Bay	-	-	122	122
40	Cowichan Bay to and including Big Qualicum river	-	-	3	3
41	Big Qualicum river to and including Oyster river	-	-	-	-
42	Oyster river to Adams river, with surrounding district	-	-	-	-
43	Adams river to Cape Scott with surrounding district	-	-	-	-
44	Bute Inlet to Gower Point	-	-	-	-
45	Total quantity	-	-	125	125
46	Total value $	-	-	1,244	1,269

I. Fish Caught and Marketed, 1920

Perch		Salmon							
Caught and landed	Marketed: Used fresh	Caught and landed	Marketed: Used fresh	Marketed: Canned	Marketed: Smoked	Marketed: Dry-salted	Marketed: Mild cured	Marketed: Pickled	
cwt.	cwt.	cwt.	cwt.	cases	cwt.	cwt.	cwt.	cwt.	
2,021	**2,021**	**1,262,864**	**198,519**	**1,188,381**	**2,660**	**33,645**	**8,924**	**134**	**1**
12,965	**16,437**	**7,819,309**	**2,332,741**	**12,415,661**	**22,934**	**151,129**	**205,734**	**1,149**	**2**
818	818	228,023	82,333	132,864	798	25,430	518	1061	3
8,599	8,893	2,166,218	1,146,595	1,690,876	13,524	127,404	20,752	84	4
–	–	311,288	23,716	334,392	40	–	4,410	–	5
–	–	140,031	–	165,395	–	–	–	–	6
–	–	70,167	–	81,152	–	–	–	–	7
–	–	75,750	–	88,691	–	1,000	–	–	8
–	–	127,158	2,020	145,600	–	–	–	–	9
–	–	69,564	9,490	67,883	–	2,445	–	–	10
–	–	793,958	35,226	883,113	40	3,445	4,410	–	11
–	–	4,202,518	298,918	9,037,719	597	12,335	89,050	–	12
–	–	–	–	–	–	–	–	–	13
631	631	43,560	26,081	19,215	–	1,070	–	–	14
63	63	39,780	22,792	14,303	8	–	3,288	28	15
–	–	26,381	5,546	23,377	80	–	708	–	16
5	5	6,396	6,364	–	19	–	–	–	17
–	–	253	253	–	–	–	–	–	18
–	–	24,985	8,867	19,188	–	–	–	–	19
–	–	91,886	5,252	94,135	1,715	3,700	–	–	20
504	504	7,642	5,805	2,186	–	–	–	–	21
1,203	1,203	240,883	80,960	172,404	1,822	4,770	3,996	28	22
4,366	7,544	1,450,573	887,228	1,687,066	8,813	11,390	95,932	308	23

Sturgeon		Black Cod				Red Cod, etc.			
Caught and landed	Marketed: Used fresh	Caught and landed	Marketed: Used fresh	Marketed: Green-salted	Marketed: Smoked	Caught and landed	Marketed: Used fresh	Marketed: Smoked	
cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	
143	**143**	**25,783**	**11,369**	**42**	**7,164**	**3,892**	**3,816**	**38**	**24**
2,630	**3,775**	**149,626**	**70,110**	**409**	**110,683**	**13,365**	**19,571**	**442**	**25**
118	118	9,157	681	10	4,227	779	779	–	26
2,380	3,386	64,099	6,087	121	67,567	4,674	7,403	–	27
–	–	14,863	10,505	32	2,147	660	628	16	28
–	–	–	–	–	–	–	–	–	29
–	–	–	–	–	–	–	–	–	30
–	–	–	–	–	–	–	–	–	31
–	–	–	–	–	–	–	–	–	32
–	–	–	–	–	–	–	–	–	33
–	–	14,863	10,505	32	2,147	660	628	16	34
–	–	74,315	62,141	288	28,996	1,320	1,749	178	35
–	–	–	–	–	–	–	–	–	36
–	–	–	–	–	–	8	8	–	37
–	–	43	43	–	–	8	8	–	38
25	25	1,720	140	–	790	–	–	–	39
–	–	–	–	–	–	890	890	–	40
–	–	–	–	–	–	–	–	–	41
–	–	–	–	–	–	–	–	–	42
–	–	–	–	–	–	32	32	–	43
–	–	–	–	–	–	1,515	1,471	22	44
25	25	1,763	183	–	790	2,453	2,409	22	45
250	389	11,212	1,882	–	14,120	7,371	10,422	264	46

I. Fish Caught and Marketed, 1920

	Fishing Districts.	Eels		Greyfish[1]	Octopus		Oulachons	
		Caught and landed	Marketed Used fresh	Caught and landed	Caught and landed	Marketed Used fresh	Caught and landed	Marketed Used fresh
	BRITISH COLUMBIA—con.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
1	**Totals for Province—Quantity**	30	30	15,000	394	394	2,115	2,115
2	**Value** $	88	162	4,550	2,646	4,082	8,575	9,096
	District No. 1—							
3	Total quantity	6	6	-	259	259	115	115
4	Total value $	12	36	-	1,942	3,108	575	1,096
	District No. 2—							
5	Skeena River District	-	-	-	-	-	-	-
6	Rivers Inlet District	-	-	-	-	-	-	-
7	Naas River District	-	-	-	-	-	2,000	2,000
8	Bella Coola and Kimsquit	-	-	-	-	-	-	-
9	Addenbrooke Island to Lowe Inlet	-	-	-	-	-	-	-
10	Queen Charlotte Islands	-	-	-	-	-	-	-
11	Total quantity	-	-	-	-	-	2,000	2,000
12	Total value $	-	-	-	-	-	8,000	8,000
	District No. 3—							
13	Cape Scott to Tatchu Point	-	-	-	-	-	-	-
14	Tatchu Point to and including Wreck Bay	-	-	-	-	-	-	-
15	Wreck Bay to San Juan Harbour	-	-	-	-	-	-	-
16	Esquimalt Harbour to North side of Cowichan Bay	-	-	-	-	-	-	-
17	Cowichan Bay to and including Big Qualicum River	-	-	8,000	51	51	-	-
18	Big Qualicum River to and including Oyster River	-	-	-	-	-	-	-
19	Oyster River to Adams River with surrounding district	-	-	-	-	-	-	-
20	Adams river to Cape Scott, with surrounding district	-	-	-	-	-	-	-
21	Bute Inlet to Gower Point	24	24	7,000	84	84	-	-
22	Total quantity	24	24	15,000	135	135	-	-
23	Total value $	76	126	4,550	704	974	-	-

[1] Used in the production of fish oil and fertilizer.

I. Fish Caught and Marketed, 1920

Tom Cod		Clams and Quahaugs			Crabs		Oysters		Shrimps		Fur Seals		
	Marketed		Marketed			Marketed		Marketed		Marketed		Marketed	
Caught and landed	Used fresh	Caught and landed	Used fresh	Canned	Caught and landed	Used fresh	Caught and landed	Used fresh	Caught and landed	Used fresh	Caught and landed	Skins	
cwt.	cwt.	bbl.	bbl.	cases	cwt.	cwt.	bbl.	bbl.	cwt.	cwt.	no.	no.	
15	15	5,429	429	5,000	10,060	10,060	1,718	1,718	563	563	1,058	1,058	1
45	60	11,939	3,363	30,000	32,935	57,963	36,830	36,834	6,735	13,536	20,542	24,712	2
–	–	299	299	–	6,509	6,509	1,716	1,716	560	560	–	–	3
–	–	1,644	2,773	–	27,663	52,547	36,800	36,800	6,720	13,521	–	–	4
–	–	–	–	–	134	134	–	–	3	3	502	502	5
–	–	–	–	–	–	–	–	–	–	–	–	–	6
–	–	–	–	–	–	–	–	–	–	–	–	–	7
–	–	–	–	–	–	–	–	–	–	–	–	–	8
–	–	–	–	–	–	–	–	–	–	–	–	–	9
–	–	–	–	–	3,300	3,300	–	–	–	–	–	–	10
–	–	–	–	–	3,434	3,434	–	–	3	3	502	502	11
–	–	–	–	–	4,570	4,570	–	–	15	15	8,032	8,032	12
–	–	38	38	–	–	–	–	–	–	–	–	–	13
–	–	–	–	–	–	–	–	–	–	–	553	553	14
–	–	35	35	–	–	–	2	2	–	–	3	3	15
15	15	5,000	–	5,000	81	81	–	–	–	–	–	–	16
–	–	–	–	–	36	36	–	–	–	–	–	–	17
–	–	57	57	–	–	–	–	–	–	–	–	–	18
–	–	–	–	–	–	–	–	–	–	–	–	–	19
–	–	–	–	–	–	–	–	–	–	–	–	–	20
–	–	–	–	–	–	–	–	–	–	–	–	–	21
15	15	5,130	130	5,000	117	117	2	2	–	–	556	556	22
45	60	10,295	590	30,000	702	846	30	34	–	–	12,510	16,680	23

I. Fish Caught and Marketed, 1920

	Fishing Districts	Whales				Fish Fertilizer	Fish Oil	Fish Offal
		Caught and landed	Marketed					
			Whalebone and meal	Whale Fertilizer	Whale Oil	Marketed	Marketed	Marketed
	British Columbia—concluded	no.	tons	tons	gal.	tons	gal.	tons
1	**Totals for Province—Quantity**	**493**	**503**	**1,033**	**604,070**	**444**	**55,669**	**22**
2	**Value** $	**85,800**	**15,090**	**82,630**	**338,026**	**37,685**	**31,155**	**1,462**
	District No. 1—							
3	Total quantity	–	–	–	–	257	14,000	–
4	Total value $	–	–	–	–	21,973	4,750	–
	District No. 2—							
5	Skeena River District	–	–	–	–	–	–	–
6	Rivers Inlet District	–	–	–	–	–	–	–
7	Naas River District	–	–	–	–	–	–	–
8	Bella Coola and Kimsquit	–	–	–	–	–	–	–
9	Addenbrooke Island to Lowe Inlet	–	–	–	–	–	–	–
10	Queen Charlotte Islands	347	400	744	468,577	–	–	–
11	Total quantity	347	400	744	468,577	–	–	–
12	Total value $	34,700	12,000	59,510	262,402	–	–	–
	District No. 3—							
13	Cape Scott to Tatchu Point	146	103	289	135,493	–	–	–
14	Tatchu Point to and including Wreck Bay	–	–	–	–	–	–	–
15	Wreck Bay to San Juan Harbour	–	–	–	–	120	19,870	–
16	Esquimalt Harbour to North side Cowichan Bay	–	–	–	–	–	–	–
17	Cowichan Bay to and including Big Qualicum River	–	–	–	–	–	10,000	–
18	Big Qualicum River to and including Oyster River	–	–	–	–	–	–	–
19	Oyster River to Adams River, with surrounding district	–	–	–	–	67	8,520	–
20	Adams River to Cape Scott with surrounding district	–	–	–	–	–	–	–
21	Bute Inlet to Gower Point	–	–	–	–	–	3,279	22
22	Total quantity	146	103	289	135,493	187	41,669	22
23	Total value $	51,100	3,090	23,120	75,624	15,712	26,405	1,462

Note.—The following quantities were landed by United States vessels and are included with Caught and Landed and Used Fresh—

District I: halibut, 21,907 cwt., $258,402: cod 109 cwt., $499: Salmon 280 cwt., $2,092.

District II: halibut 124,857 cwt., $1,685,569: Salmon 6,675 cwt., $40,050: Black cod 3,142 cwt., $15,710: Cod 7 cwt., $21.

Note—The following is in addition to the quantities in main table: Estimated home consumption of all varieties including salmon, trout, cod, oulachons, bottom fish, shell fish, etc.

	Quantity cwt.	Value $
District I:		
By Indians	22,000	176,000
By Whites and Orientals	118,000	944,000
District II: By Whites and Indians	5,934	29,670
District III: By Indians	8,000	8,000

II. AGENCIES OF PRODUCTION

II. Agencies of Production, 1920—Part I. In Primary Operations

	Fishing Districts	Vessels			
			Sailing and Gasoline Vessels		
		20-40 tons	10-20 tons	Total Value	Total Men
	PRINCE EDWARD ISLAND	no.	no.	$	no.
1	**Totals for Province**	–	**11**	**9,300**	**43**
2	Kings County—Totals	–	4	3,200	17
3	Queens County—Totals	–	2	1,600	5
	Prince County—				
4	Western portion: Baptist Point to and including Cascumpeque Bay	–	5	4,500	21
5	Eastern portion: East of Baptist Point and Cascumpeque Bay	–	–	–	–
6	Totals for County	–	5	4,500	21

	Fishing Districts	Fishing Gear					
		Gill Nets, Seines, Trap and Smelts Net, etc.		Trawls		Hand lines	
		No.	Value	No.	Value	No.	Value
	PRINCE EDWARD ISLAND—concluded.		$		$		$
7	**Totals for Province**	**4,116**	**56,393**	**312**	**9,260**	**1,067**	**2,134**
8	Kings County—Totals	879	10,064	134	4,020	576	1,152
9	Queens County—Totals	1,346	21,169	100	2,900	250	500
	Prince County—						
10	Western portion: Baptist Point to and including Cascumpeque Bay	1,212	15,470	78	2,340	111	222
11	Eastern portion: East of Baptist Point and Cascumpeque Bay	679	9,690	–	–	130	260
12	Totals for County	1,891	25,160	78	2,340	241	482

II. Agencies of Production, 1920—Part I. In Primary Operations

Boats					Carrying Smacks			
Sail and Row		Gasoline		Total Men				
No.	Value	No.	Value	No.	No.	Value	Men	
	$		$			$	no.	
10	610	1,425	324,100	2,742	8	2,800	8	1
–	–	643	128,600	1,286	8	2,800	8	2
1	100	251	62,750	504	–	–	–	3
4	260	297	74,250	474	–	–	–	4
5	250	234	58,500	478	–	–	–	5
9	510	531	132,750	952	–	–	–	6

Fishing Gear								
Lobster Traps		Fishing Piers and Wharves		Freezers and Ice Houses		Small Fish and Smoke Houses		
No.	Value	No.	Value	No.	Value	No.	Value	
	$		$		$		$	
293,936	420,903	29	68,000	7	4,500	474	23,350	7
118,350	177,525	8	59,000	–	–	140	7,000	8
60,525	90,787	20	4,000	1	1,000	186	9,000	9
57,338	86,007	1	5,000	6	3,500	127	6,300	10
57,723	66,584	–	–	–	–	21	1,050	11
115,061	152,591	1	5,000	6	3,500	148	7,350	12

II. Agencies of Production, 1920—Part I. In Primary Operations

	Fishing Districts	Steam Trawlers				Vessels Steam			
		No.	Tonnage	Value	Men	No.	Tonnage	Value	Men
	NOVA SCOTIA			$	no.			$	no.
1	**Totals for Province**	**5**	**791**	**585,000**	**119**	**8**	**273**	**41,000**	**48**
	Richmond County—								
2	Inverness county line to St. Peter's canal., including Isle Madame	–	–	–	–	–	–	–	–
3	St. Peter's canal to Cape Breton county line	–	–	–	–	–	–	–	–
4	Totals for County	–	–	–	–	–	–	–	–
	Cape Breton County—								
5	Richmond county line to White Point and head of East Bay	–	–	–	–	–	–	–	–
6	White Point to Bridgeport	–	–	–	–	–	–	–	–
7	Bridgeport and head of East Bay to Victoria county line	–	–	–	–	–	–	–	–
8	Totals for County	–	–	–	–	–	–	–	–
	Victoria County—								
9	South of Barachois River	–	–	–	–	–	–	–	–
10	Barachois River to Green Cove	–	–	–	–	–	–	–	–
11	Green Cove to Inverness county line	–	–	–	–	–	–	–	–
12	Totals for County	–	–	–	–	–	–	–	–
	Inverness County—								
13	North of Broad Cove, Scotsville and Gillander Mountain	–	–	–	–	–	–	–	–
14	Broad Cove, Scottsville, and Gillander Mountain to Richmond county line	3	429	350,000	67	–	–	–	–
15	Totals for County	3	429	350,000	67	–	–	–	–
	Cumberland County—								
16	New Brunswick line to Cape Cliff	–	–	–	–	–	–	–	–
17	Cape Cliff to Colchester county line	–	–	–	–	–	–	–	–
18	Bay of Fundy	–	–	–	–	–	–	–	–
19	Totals for County	–	–	–	–	–	–	–	–
	Colchester County—								
20	Strait of Northumberland	–	–	–	–	–	–	–	–
21	Hants county line to Salmon river	–	–	–	–	–	–	–	–
22	Salmon river to Cumberland county line	–	–	–	–	–	–	–	–
23	Totals for County	–	–	–	–	–	–	–	–
	Pictou County—								
24	Colchester county line to Pictou Harbour, including Pictou Island	–	–	–	–	1	31	5,000	5
25	East of Pictou Harbour to Antigonish county line	–	–	–	–	–	–	–	–
26	Totals for County	–	–	–	–	1	31	5,000	5
27	Antigonish County—Totals	–	–	–	–	–	–	–	–

II. Agencies of Production, 1920—Part I. In Primary Operations

Vessels					Boats					Carrying Smacks			
Sailing and Gasoline					Sail and Row		Gasoline						
40 tons and over	20-40 tons	10-20 tons	Total Value	Total Men	No.	Value	No.	Value	Total Men	No.	Value	Men	
no.	no.	no.	$	no.		$		$	no.		$	no.	
143	**49**	**288**	**3,096,982**	**4,212**	**3,976**	**165,615**	**5,401**	**1,291,200**	**14,282**	**162**	**87,360**	**304**	**1**
3	4	29	40,900	197	120	24,000	40	8,000	260	8	1,200	16	2
–	–	1	650	3	550	20,000	110	30,800	840	6	3,600	12	3
3	4	30	41,550	200	670	44,000	150	38,800	1,100	14	4,800	28	4
–	–	–	–	–	95	3,325	35	9,800	260	2	800	6	5
–	–	14	12,000	55	35	6,875	208	47,925	385	–	–	–	6
–	1	7	6,600	28	–	–	9	3,600	9	8	4,800	8	7
–	1	21	18,600	83	130	10,200	252	61,325	654	10	5,600	14	8
–	–	1	850	2	60	3,000	14	3,500	94	4	2,000	6	9
–	2	15	14,000	70	278	13,900	48	11,040	652	5	1,250	10	10
–	–	1	900	4	185	9,250	54	13,500	479	4	920	8	11
–	2	17	15,750	76	523	26,150	116	28,040	1,225	13	4,170	24	12
–	–	22	25,200	89	18	2,480	162	38,775	474	7	3,500	14	13
–	–	1	400	3	114	2,280	145	43,500	401	7	3,100	9	14
–	–	23	25,600	92	132	4,760	307	82,275	875	14	6,600	23	15
–	–	–	–	–	–	–	68	5,300	68	–	–	–	16
–	–	–	–	–	17	170	55	11,000	86	–	–	–	17
–	–	1	300	3	–	–	4	915	5	–	–	–	18
–	–	1	300	3	17	170	127	17,215	159	–	–	–	19
–	–	–	–	–	–	–	4	600	4	–	–	–	20
–	–	–	–	–	39	750	–	–	65	–	–	–	21
–	–	–	–	–	6	600	10	2,150	32	–	–	–	22
–	–	.	–	–	45	1,350	14	2,750	101	–	–	–	23
–	–	–	–	–	–	–	195	29,250	292	6	2,100	8	24
–	–	–	–	–	16	320	41	8,200	73	2	500	2	25
–	–	–	–	–	16	320	236	37,450	365	8	2,600	10	26
–	–	–	–	–	88	1,760	116	16,820	318	13	3,900	13	27

II. Agencies of Production, 1920—Part I. In Primary Operations

	Fishing Districts	Fishing Gear					
		Gill Nets, Seines, Trap and Smelt Nets, etc.		Weirs		Trawls	
		No.	Value.	No.	Value.	No.	Value.
	NOVA SCOTIA—con.		$		$		$
1	**Totals for Province**	**54,232**	**1,187,845**	**134**	**41,330**	**13,961**	**273,538**
	Richmond County—						
2	Inverness county line to St. Peter's canal, including Ile Madame	2,800	33,600	–	–	800	6,400
3	St. Peter's canal to Cape Breton county line	2,000	24,000	–	–	70	700
4	Totals for County	4,800	57,600	–	–	870	7,100
	Cape Breton County—						
5	Richmond county line to White Point and head of East Bay	360	7,200	–	–	–	–
6	White Point to Bridgeport	1,378	28,348	–	–	121	2,573
7	Bridgeport and head of East Bay to Victoria county line	153	6,460	–	–	310	930
8	Totals for County	1,891	42,008	–	–	431	3,503
	Victoria County—						
9	South of Barachois River	154	10,345	–	–	47	940
10	Barachois River to Green Cove	720	35,000	–	–	700	4,900
11	Green Cove to Inverness county line	380	15,400	–	–	104	728
12	Totals for County	1,254	60,745	–	–	851	6,568
	Inverness County—						
13	North of Broad Cove, Scotsville and Gillander Mountain	718	10,052	40	1,600	478	6,240
14	Broad Cove, Scotsville and Gillander Mountain to Richmond county line	800	12,000	–	–	430	4,300
15	Totals for County	1,518	22,052	40	1,600	908	10,540
	Cumberland County—						
16	New Brunswick line to Cape Cliff	75	3,750	–	–	–	–
17	Cape Cliff to Colchester county line	–	–	–	–	–	–
18	Bay of Fundy	15	260	7	900	–	–
19	Totals for County	90	4,010	7	900	–	–
	Colchester County—						
20	Strait of Northumberland	–	–	–	–	–	–
21	Hants county line to Salmon river	65	650	–	–	–	–
22	Salmon river to Cumberland county line	16	2,400	4	500	–	–
23	Totals for County	81	3,050	4	500	–	–
	Pictou County—						
24	Colchester county line to Pictou Harbour, including Pictou Island	190	4,000	–	–	–	–
25	East of Pictou Harbour to Antigonish county line	55	11,610	–	–	15	195
26	Totals for County	245	15,610	–	–	15	195
27	Antigonish County—Totals	697	13,940	–	–	190	950

II. Agencies of Production, 1920—Part I. In Primary Operations

Fishing Gear										
Hand Lines		Lobster Traps		Fishing Piers aad Wharves		Freezers and Ice Houses		Small Fish and Smoke Houses		
No.	Value.	No.	Value.	No.	Value.	No.	Value	No.	Value	
	$		$		$		$		$	
25,818	28,334	631,132	933,712	1,850	1,025,800	312	168,819	4,574	467,325	1
1,100	1,100	18,425	18,425	40	4,000	3	1,000	140	4,800	2
700	700	6,000	12,000	21	3,200	–	–	200	7,750	3
1,800	1,800	24,425	30,425	61	7,200	3	1,000	340	12,550	4
200	200	2,400	4,800	16	1,600	–	–	36	720	5
888	1,397	19,450	28,026	26	4,300	–	–	152	7,680	6
376	1,128	11,600	34,800	16	27,100	4	20,000	18	900	7
1,464	2,725	33,450	67,626	58	33,000	4	20,000	206	9,300	8
107	214	2,550	3,825	–	–	–	–	–	–	9
796	796	3,800	5,700	18	85,000	9	5,600	138	6,400	10
826	826	6,400	9,600	16	6,000	6	2,100	50	10,000	11
1,729	1,836	12,750	19,125	34	91,000	15	7,700	188	16,400	12
1,114	1,114	17,474	17,474	16	30,500	11	18,550	26	33,300	13
564	564	31,200	31,200	9	40,000	4	20,000	8	4,500	14
1,678	1,678	48.674	48,674	25	70,500	15	38,550	34	37,800	15
–	–	15,300	15,300	2	200	–	–	9	9,000	16
–	–	14,500	14,500	–	–	–	–	–	–	17
11	25	183	265	–	–	–	–	1	25	18
11	25	29,983	30,065	2	200	–	–	10	9,025	19
–	–	–	–	–	–	–	–	–	–	20
–	–	–	–	–	–	–	–	–	–	21
25	50	–	–	–	–	–	–	1	10	22
25	50	–	–	–	–	–	–	1	10	23
100	100	46,550	46,550	–	–	–	–	–	–	24
40	40	8,360	12,540	–	–	9	630	14	140	25
140	140	54,910	59,090	–	–	9	630	14	140	26
285	171	42,750	64,125	–	–	5	4,000	120	1,800	27

II. Agencies of Production, 1920—Part I. In Primary Operations

	Fishing Districts	Steam Trawlers				Vessels Steam			
		No.	Tonnage	Value	Men	No.	Tonnage	Value	Men
	Nova Scotia—con.			$	no.			$	no.
	Guysborough County—								
1	Antigonish county line to Cape Canso	1	191	100,000	24	1	100	10,000	6
2	Cape Canso to New Harbour	–	–	–	–	–	–	–	–
3	New Harbour to Halifax county line	–	–	–	–	–	–	–	–
4	Totals for County	1	191	100,000	24	1	100	10,000	6
	Halifax County—								
5	Guysborough county line to East Ship Harbour	–	–	–	–	–	–	–	–
6	West Ship Harbour to (but not including) Cole Harbour	–	–	–	–	–	–	–	–
7	Cole Harbour to Lunenburg county line	–	–	–	–	–	–	–	–
8	Totals for County	–	–	–	–	–	–	–	–
9	Hants County—Totals	–	–	–	–	–	–	–	–
	Lunenburg County—								
10	Halifax County line to Mahone Bay	–	–	–	–	–	–	–	–
11	Mahone Bay to Queens county line	–	–	–	–	–	–	–	–
12	Totals for County	–	–	–	–	–	–	–	–
	Queens County—								
13	Lunenburg county line to Port Medway Harbour	–	–	–	–	–	–	–	–
14	Port Medway Harbour to Shelburne county line	–	–	–	–	–	–	–	–
15	Totals for County	–	–	–	–	–	–	–	–
	Shelburne County—								
16	Queens county line to Negro Harbour	–	–	–	–	–	–	–	–
17	Negro Harbour (inclusive) to Yarmouth county line	–	–	–	–	–	–	–	–
18	Totals for County	–	–	–	–	–	–	–	–
19	Yarmouth County—Totals	1	171	135,000	28	5	110	22,000	33
	Digby County—								
20	Yarmouth county line to Weymouth	–	–	–	–	–	–	–	–
21	Weymouth to Annapolis county line, including Digby Neck	–	–	–	–	1	32	4,000	4
22	Totals for County	–	–	–	–	1	32	4,000	4
23	Annapolis County—Totals	–	–	–	–	–	–	–	–
	Kings County—								
24	Annapolis county line to Cunard	–	–	–	–	–	–	–	–
25	Cunard to Hants county line	–	–	–	–	–	–	–	–
26	Totals for County	–	–	–	–	–	–	–	–

II. Agencies of Production, 1920—Part I. In Primary Operations

Sailing and Gasoline					Boats					Carrying Smacks			
					Sail and Row		Gasoline		Total Men				
40 tons and over	20–40 tons	10–20 tons	Total Value	Total Men	No.	Value	No.	Value		No.	Value	Men	
no.	no.	no.	$	no.		$		$	no.		$	no.	
3	6	12	23,200	75	7	1,050	236	59,000	486	6	4,000	12	1
–	7	28	48,000	139	2	900	131	20,850	529	–	–	–	2
–	–	11	7,800	42	–	–	200	60,000	350	5	4,000	10	3
3	13	51	79,000	256	9	1,950	567	139,850	1,365	11	8,000	22	4
–	1	4	2,332	33	15	1,500	100	12,000	315	8	1,000	24	5
–	–	2	660	13	10	200	175	25,000	216	4	500	12	6
2	4	45	53,500	208	615	36,900	265	39,795	887	8	9,600	24	7
2	5	51	56,492	254	640	38,600	540	76,795	1,418	20	11,100	60	8
–	–	1	750	3	38	625	12	2,900	63	–	–	–	9
6	2	20	107,000	180	300	9,000	180	63,000	490	–	–	–	10
106	–	10	2,407,900	2,191	–	–	218	69,780	297	3	990	3	11
112	2	30	2,514,900	2,371	300	9,000	398	132,780	787	3	990	3	12
–	–	2	1,000	7	33	940	36	6,400	84	–	–	–	13
–	–	11	5,500	37	20	1,000	391	58,650	400	–	–	–	14
–	–	13	6,500	44	53	1,940	427	65,050	484	–	–	–	15
5	12	15	80,700	233	535	7,500	315	48,500	1,215	4	8,600	12	16
–	2	18	14,250	110	118	3,000	465	139,500	1,000	12	5,250	18	17
5	14	33	94,950	343	653	10,500	780	188,000	2,215	16	13,850	30	18
16	7	9	203,700	411	110	2,200	558	167,000	1,050	17	6,900	31	19
–	–	5	2,000	22	50	1,000	194	51,450	799	3	1,150	6	20
1	1	2	21,500	32	188	4,830	387	121,450	874	20	17,700	40	21
1	1	7	23,500	54	238	5,830	581	172,900	1,673	23	18,850	46	22
1	–	–	15,000	19	271	5,460	179	48,950	295	–	–	–	23
–	–	1	400	3	35	700	41	12,300	127	–	–	–	24
–	–	–	–	–	8	100	–	–	8	–	–	–	25
–	–	1	400	3	43	800	41	12,300	135	–	–	–	26

II. Agencies of Production, 1920—Part I. In Primary Operations

	Fishing Districts	Fishing Gear					
		Gill Nets, Seines, Trap and Smelt Nets, etc.		Weirs		Trawls	
		No.	Value	No.	Value	No.	Value
	Nova Scotia—concluded		$		$		$
	Guysborough County—						
1	Antigonish county line to Cape Canso	6,023	140,000	–	–	1,383	13,830
2	Cape Canso to New Harbour	5,715	107,000	–	–	808	8,080
3	New Harbour to Halifax county line	2,500	37,500	–	–	300	5,400
4	Totals for County	14,238	284,500	–	–	2,491	27,310
	Halifax County—						
5	Guysborough county line to East Ship Harbour	1,500	7,500	–	–	75	1,500
6	West Ship Harbour to (but not including) Cole Harbour	1,500	4,500	–	–	45	900
7	Cole Harbour to Lunenburg county line	8,400	337,250	–	–	720	14,400
8	Totals for County	11,400	349,250	–	–	840	16,800
9	Hants County—Totals	76	2,100	2	180	–	–
	Lunenburg County—						
10	Halifax county line to Mahone Bay	2,600	70,000	–	–	454	11,440
11	Mahone Bay to Queens county line	3,390	50,750	–	–	737	58,960
12	Totals for County	5,990	120,750	–	–	1,191	70,400
	Queens County—						
13	Lunenburg county line to Port Medway Harbour	404	4,300	–	–	50	750
14	Port Medway Harbour to Shelburne county line	1,530	30,000	–	–	200	4,000
15	Totals for County	1,934	34,300	–	–	250	4,750
	Shelburne County—						
16	Queens county line to Negro Harbour	2,750	35,000	–	–	1,825	32,500
17	Negro Harbour (inclusive) to Yarmouth county line	3,025	35,000	–	–	825	16,500
18	Totals for County	5,775	70,000	–	–	2,650	49,000
19	Yarmouth County—Totals	2,200	69,660	4	1,600	1,062	21,240
	Digby County—						
20	Yarmouth county line to Weymouth	444	4,440	3	1,750	329	2,952
21	Weymouth to Annapolis county line, including Digby Neck	1,053	24,265	22	22,000	1,275	38,250
22	Totals for County	1,497	28,705	25	23,750	1,604	41,202
23	Annapolis County—Totals	433	7,640	17	4,250	558	13,380
	Kings County—						
24	Annapolis county line to Cunard	95	1,425	34	8,500	50	600
25	Cunard to Hants county line	18	500	1	50	–	–
26	Totals for County	113	1,925	35	8,550	50	600

II. Agencies of Production, 1920—Part I. In Primary Operations

Fishing Gear										
Hand lines		Lobster Traps		Fishing Piers and Wharves		Freezers and Ice Houses		Small Fish and Smoke Houses		
No.	Value	No.	Value.	No.	Value.	No.	Value.	No.	Value.	
	$		$		$		$		$	
724	724	14,400	21,366	38	5,000	1	200	135	13,500	1
724	724	9,900	13,675	80	8,000	5	5,800	71	7,100	2
500	500	15,400	23,100	36	1,700	20	1,700	200	6,000	3
1,948	1,948	39,700	58,141	154	14,700	26	7,700	406	26,600	4
1,400	1,400	30,000	30,000	95	4,275	4	664	175	8,800	5
700	700	20,000	20,000	85	3,875	2	330	220	11,000	6
1,155	578	20,000	30,000	564	100,800	41	32,800	558	139,500	7
3,255	2,678	70,000	80,000	744	108,950	47	33,794	953	159,300	8
–	–	–	–	–	–	–	–	–	–	9
1,300	780	10,700	10,700	132	11,250	7	1,000	235	16,450	10
4,500	3,150	22,467	22,467	18	227,000	1	2,500	431	64,650	11
5,800	3,930	33,167	33,167	150	238,250	8	3,500	666	81,100	12
340	255	4,380	6,570	26	1,100	12	740	90	4,500	13
500	500	10,000	20,000	102	5,700	5	10,000	250	12,500	14
840	755	14,380	26,570	128	6,800	17	10,740	340	17,000	15
1,200	1,800	30,750	46,125	230	80,000	–	–	375	15,500	16
670	838	75,250	112,875	85	25,000	20	2,500	150	7,500	17
1,870	2,638	106,000	159,000	315	105,000	20	2,500	525	23,000	18
2,000	4,000	90,200	202,950	41	241,000	13	8,100	141	15,000	19
963	963	11,538	23,076	–	–	13	375	169	10,225	20
1,000	1,000	9,155	18,310	118	87,700	54	20,655	227	23,300	21
1,963	1,963	20,693	41,386	118	87,700	67	21,030	396	33,525	22
760	1,622	8,975	11,218	20	21,500	26	7,400	181	22,725	23
250	375	1,075	2,150	–	–	37	2,175	53	2,050	24
–	–	–	–	–	–	–	–	–	–	25
250	375	1,075	2,150	–	–	37	2,175	53	2,050	26

II. Agencies of Production, 1920—Part I. In Primary Operations

	Fishing Districts	Vessels								
		Steam				Sailing and Gasoline				
		No.	Tonnage	Value	Men	40 tons and over	20-40 tons	10-20 tons	Total Value	Total Men
	New Brunswick—Sea Fisheries			$	no.	no.	no.	no.	$	no.
1	**Total Sea Fisheries for Province**	2	56	5,300	6	–	38	253	262,800	1,278
	Charlotte County—									
2	International Boundary line to Back Bay	–	–	–	–	–	–	3	2,400	8
3	Back Bay to St. John county line	–	–	–	–	–	2	–	4,000	4
4	Campobello and Deer Islands	–	–	–	–	–	2	8	9,800	47
5	Grand Manan	–	–	–	–	–	1	32	32,600	102
6	Totals for County	–	–	–	–	–	5	43	48,800	161
7	St. John County—Totals	–	–	–	–	–	–	4	6,000	12
8	Albert County—Totals	–	–	–	–	–	–	–	–	–
	Westmorland County—									
9	Bay of Fundy	–	–	–	–	–	–	–	–	–
10	Nova Scotia line to Cape Bruin	–	–	–	–	–	–	2	2,500	5
11	Cape Bruin to Kent county line	–	–	–	–	–	–	2	1,500	6
12	Totals for County	–	–	–	–	–	–	4	4,000	11
	Kent County—									
13	Westmorland county line to (but not including) Chockfish river	–	–	–	–	–	–	2	1,200	12
14	Chockfish river to Point Sapin	–	–	–	–	–	–	7	6,500	14
15	Point Sapin to Northumberland county line	–	–	–	–	–	2	6	21,000	20
16	Totals for County	–	–	–	–	–	2	15	28,700	46
	Northumberland County—									
17	Kent county line to Point au Car	–	–	–	–	–	2	8	23,000	24
18	Northwest and Southwest Miramichi river	–	–	–	–	–	–	–	–	–
19	Point au Car to Gloucester county line (including Miramichi Bay)	1	16	4,000	3	–	1	2	3,500	17
20	Totals for County	1	16	4,000	3	–	3	10	26,500	41
	Gloucester County—									
21	Northumberland county line to Inkerman	–	–	–	–	–	–	5	7,500	15
22	Islands of Shippegan and Miscou	–	–	–	–	–	9	51	76,600	309
23	Inkerman to Glen Anglin	–	–	–	–	–	19	120	63,200	680
24	Glen Anglin to Restigouche county line	–	–	–	–	–	–	1	1,500	3
25	Totals for County	–	–	–	–	–	28	177	148,800	1,007
26	Restigouche County—Totals	1	40	1,300	3	–	–	–	–	–

II. Agencies of Production, 1920—Part I. In Primary Operations

Boats					Carrying Smacks			
Sail and Row	Value	Gasoline	Value	Total Men	No.	Value	Men	
no.	$	no.	$	no.		$	no.	
3,411	**94,266**	**1,844**	**670,450**	**6,480**	**57**	**86,600**	**134**	**1**
410	11,500	70	21,000	455	16	23,500	30	2
448	6,720	161	64,400	699	7	29,000	14	3
366	9,150	300	135,000	720	–	–	–	4
490	12,250	310	155,000	700	5	10,000	15	5
1,714	39,620	841	375,400	2,574	28	62,500	59	6
300	12,000	230	70,000	480	3	5,000	6	7
–	–	–	–	–	–	–	–	8
9	540	–	–	19	–	–	–	9
–	–	99	29,700	140	–	–	–	10
390	1,950	181	27,150	615	5	7,000	15	11
399	2,490	280	56,850	774	5	7,000	15	12
134	4,026	60	21,000	400	1	800	4	13
142	6,100	132	33,200	548	4	2,000	8	14
–	–	30	15,000	60	–	–	–	15
276	10,126	222	69,200	1,008	5	2,800	12	16
8	1,600	50	25,000	116	10	7,000	30	17
67	1,600	5	1,000	72	–	–	–	18
340	10,400	7	2,100	414	4	1,500	8	19
415	13,600	62	28,100	602	14	8,500	38	20
15	3,000	6	3,000	40	–	–	–	21
48	1,200	24	7,200	144	–	–	–	22
30	3,750	150	45,000	360	–	–	–	23
140	5,200	17	8,500	326	–	–	–	24
233	13,150	197	63,700	870	–	–	–	25
74	3,280	12	7,200	172	2	800	4	26

II. Agencies of Production, 1920—Part I. In Primary Operations

	Fishing Districts	Fishing Gear					
		Gill Nets, Seines, Trap and Smelt Nets, etc.		Weirs		Trawls	
		No.	Value	No.	Value	No.	Value
	NEW BRUNSWICK SEA FISHERIES—concluded		$		$		$
1	**Total Sea Fisheries for Province**	**19,730**	**781,561**	**608**	**718,550**	**2,016**	**48,237**
	Charlotte County—						
2	International Boundary line to Back Bay	196	64,980	155	300,000	24	3,600
3	Back Bay to St. John county line	334	25,600	117	117,000	58	5,916
4	Campobello and Deer Islands	520	26,000	110	77,000	1,020	15,300
5	Grand Manan	647	45,290	94	140,400	281	4,215
6	Totals for County	1,697	161,870	476	634,400	1,383	29,031
7	St. John County—Totals	1,650	40,000	55	70,000	160	4,000
8	Albert County—Totals	–	–	–	–	–	–
	Westmorland County—						
9	Bay of Fundy	9	345	–	–	–	–
10	Nova Scotia line to Cape Bruin	900	10,800	1	1,000	25	200
11	Cape Bruin to Kent county line	1,835	16,060	–	–	–	–
12	Totals for County	2,744	27,205	1	1,000	25	200
	Kent County—						
13	Westmorland county line to (but not including) Chockfish river	900	63,200	2	1,650	–	–
14	Chockfish river to Point Sapin	800	45,000	–	–	70	1,110
15	Point Sapin to Northumberland county line	810	81,000	–	–	–	–
16	Totals for County	2,510	189,200	2	1,650	70	1,110
	Northumberland County—						
17	Kent county line to Point au Car	2,190	21,900	–	–	–	–
18	Northwest and Southwest Miramichi river	–	–	74	11,500	–	–
19	Point au Car to Gloucester county line (including Miramichi Bay)	3,050	122,000	–	–	–	–
20	Totals for County	5,240	143,900	74	11,500	–	–
	Gloucester County—						
21	Northumberland county line to Inkerman	1,050	31,000	–	–	–	–
22	Islands of Shippegan and Miscou	900	45,000	–	–	60	7,500
23	Inkerman to Glen Anglin	3,600	72,000	–	–	300	6,000
24	Glen Anglin to Restigouche county line	165	32,880	–	–	18	396
25	Totals for county	5,715	180,880	–	–	378	13,896
26	Restigouche County—Totals	174	38,506	–	–	–	–

II. Agencies of Production, 1920—Part I. In Primary Operations

Fishing Gear										
Hand Lines		Lobster Traps		Fishing Piers and Wharves		Freezers and Ice Houses		Small Fish and Smoke Houses		
No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	
	$		$		$		$		$	
10,589	**10,406**	**237,900**	**284,587**	**447**	**137,600**	**89**	**217,800**	**888**	**228,200**	**1**
275	550	450	787	7	700	–	–	12	1,600	2
100	50	4,400	8,800	3	1,200	–	–	4	1,200	3
2,950	2,950	1,800	2,700	139	27,800	–	–	148	29,600	4
1,710	1,710	22,000	33,000	196	58,800	1	400	492	147,600	5
5,035	5,260	28,650	45,287	345	88,500	1	400	656	180,000	6
40	60	5,500	11,000	65	30,000	6	92,000	80	24,000	7
–	–	–	–	–	–	–	–	–	–	8
–	–	–	–	–	–	–	–	–	–	9
300	180	9,000	9,000	10	2,000	2	4,000	30	1,500	10
600	900	25,500	12,750	–	–	2	21,500	–	–	11
900	1,080	34,500	21,750	10	2,000	4	25,500	30	1,500	12
12	21	24,000	48,000	–	–	4	20,000	–	–	13
400	400	20,000	20,000	17	7,600	10	6,000	12	2,400	14
40	40	14,800	14,800	–	–	7	4,300	–	–	15
452	461	58,800	82,800	17	7,600	21	30,300	12	2,400	16
110	110	7,650	7,650	8	5,000	8	4,800	4	2,000	17
–	–	–	–	–	–	5	2,000	–	–	18
60	60	16,900	25,350	–	–	24	16,000	80	14,000	19
170	170	24,550	33,000	8	5,000	37	22,800	84	16,000	20
1,000	800	5,000	10,000	–	–	2	2,000	25	4,000	21
670	670	48,000	48,000	–	–	1	3,000	1	300	22
2,200	1,760	25,000	18,750	1	4,000	4	20,000	–	–	23
92	115	4,300	8,600	–	–	10	6,800	–	–	24
3,962	3,345	82,300	85,350	1	4,000	17	31,800	26	4,300	25
30	30	3,600	5,400	1	500	3	15,000	–	–	26

II. Agencies of Production, 1920—Part I. In Primary Operations

	Fishing Districts	Boats				Total Men
		Sail and Row		Gasoline		
		No.	Value	No.	Value	
	New Brunswick—Inland Fisheries		$		$	no.
1	**Total Inland Fisheries for Province**	**237**	**5,015**	**9**	**2,400**	**320**
2	Madawaska County	12	240	–	–	20
3	Victoria County	7	140	–	–	10
4	Carleton County	35	525	–	–	35
5	York County	78	1,560	–	–	80
6	Sunbury County	35	875	3	900	55
7	Queens County	35	625	4	1,200	58
8	Kings County	35	1,050	2	300	62

Note.—In addition to the above there were used by anglers in inland New Brunswick 10 boats valued at $300; and 1,420 rods and lines, valued at $4,760.

	Fishing Districts	Vessels				
		Sailing and Gasoline				
		40 tons and over	20–40 tons	10–20 tons	Total Value	Total Men
	Quebec—Sea Fisheries	no.	no.	no.	$	no.
9	**Total Sea Fisheries for Province**	**3**	**1**	**4**	**15,500**	**35**
	Bonaventure—					
10	Head of tide to Miguacha	–	–	–	–	–
11	Miguacha to Paspebiac Point	–	–	–	–	–
12	Paspebiac Point to Point Maquereau	–	–	–	–	–
13	Totals for County	–	–	–	–	–
	Gaspé (Mainland)—					
14	Point Maquereau to Barachois	–	–	–	–	–
15	Barachois to Fame Point	–	–	–	–	–
16	Fame Point to Cape Chat	–	–	–	–	–
17	Totals for County	–	–	–	–	–
18	Magdalen Islands—					
19	Southern Subdistrict	3	1	2	11,500	27
20	Northern Subdistrict	–	–	–	–	–
21	Totals for County	3	1	2	11,500	27
	Saguenay—					
22	Tadoussac to Jambons	–	–	1	2,000	3
23	Jambons to Pigons	–	–	–	–	–
24	Pigons to St. Charles	–	–	–	–	–
25	St. Charles to Natashquan Point	–	–	–	–	–
26	Natashquan Point to Cape Whittle	–	–	1	2,000	5
27	Cape Whittle to Chicatica	–	–	–	–	–
28	Chicatica to Bonne Espérance	–	–	–	–	–
29	Bonne Espérance to Blanc Sablon	–	–	–	–	–
30	Anticosti Island	–	–	–	–	–
31	Totals for County	–	–	2	4,000	8
32	Rimouski—Totals	–	–	–	–	–

II. Agencies of Production, 1920—Part I. In Primary Operations

Men Fishing without boats	Fishing Gear								
	Gill Nets		Eel Traps		Freezers and Ice-houses		Small Fish and Smoke houses		
No.	No.	Value	No.	Value	No.	Value	No.	Value	
		$		$		$		$	
-	832	13,505	175	525	-	-	-	-	1
-	50	250	-	-	-	-	-	-	2
-	7	105	-	-	-	-	-	-	3
-	40	1,000	-	-	-	-	-	-	4
-	90	1,800	-	-	-	-	-	-	5
-	350	5,250	-	-	-	-	-	-	6
-	220	2,400	100	300	-	-	-	-	7
-	75	2,700	75	225	-	-	-	-	8

Boats					Carrying Smacks			
Sail and Row		Gasoline		Total Men				
No.	Value	No.	Value		No.	Value	Men	
	$		$	no.		$	no.	
1,438	160,500	2,570	963,900	8,226	4	3,500	8	9
15	400	-	-	32	-	-	-	10
58	5,660	22	6,600	171	-	-	-	11
217	12,900	71	22,000	427	-	-	-	12
290	18,960	93	28,600	630	-	-	-	13
186	36,500	269	125,500	1,040	-	-	-	14
285	35,500	651	218,400	1,772	-	-	-	15
50	7,200	350	125,000	760	-	-	-	16
521	79,200	1,270	468,900	3,572	-	-	-	17
								18
35	2,000	470	230,000	1,490	4	3,500	8	19
25	7,500	200	11,000	500	-	-	-	20
60	9,500	670	241,000	1,990	4	3,500	8	21
96	3,840	14	7,000	211	-	-	-	22
3	450	28	8,400	68	-	-	-	23
44	6,200	176	78,200	498	-	-	-	24
9	1,350	59	29,500	160	-	-	-	25
11	1,800	19	6,900	67	-	-	-	26
47	6,750	117	46,800	225	-	-	-	27
12	2,800	46	15,800	93	-	-	-	28
133	10,200	63	25,300	376	-	-	-	29
-	-	3	1,500	8	-	-	-	30
355	33,390	525	219,400	1,706	-	-	-	31
212	19,450	12	6,000	328	-	-	-	32

II. Agencies of Production, 1920—Part I. In Primary Operations

	Fishing Districts	Fishing Gear					
		Gill Nets, Seines, Trap and Smelt Nets, etc.		Weirs		Trawls	
		No.	Value	No.	Value	No.	Value
	QUEBEC—SEA FISHERIES—concluded		$		$		$
1	**Total Sea Fisheries for Province**	**9,888**	**499,810**	**312**	**14,500**	**716**	**23,878**
	Bonaventure—						
2	Head of tide to Miguacha	17	700	–	–	–	–
3	Miguacha to Paspebiac Point	294	10,620	–	–	23	578
4	Paspebiac Point to Point Maquereau	656	17,500	–	–	212	9,500
5	Totals for County	967	28,820	–	–	235	10,078
	Gaspé (Mainland)—						
6	Point Maquereau to Barachois	1,213	42,400	–	–	147	5,600
7	Barachois to Fame Point	1,340	65,000	–	–	121	1,200
8	Fame Point to Cape Chat	1,120	52,500	–	–	–	–
9	Totals for County	3,673	159,900	–	–	268	6,800
	Magdalen Islands—						
10	Southern Subdistrict	3,025	115,000	250	5,000	–	–
11	Northern Subdistrict	573	25,500	–	–	110	2,200
12	Totals for County	3,598	140,500	250	5,000	110	2,200
	Saguenay—						
13	Tadoussac to Jambons	462	27,720	51	5,100	5	150
14	Jambons to Pigons	248	9,600	–	–	–	–
15	Pigons to St. Charles	126	13,300	–	–	–	–
16	St. Charles to Natashquan Point	22	3,400	–	–	–	–
17	Natashquan Point to Cape Whittle	31	4,700	–	–	–	–
18	Cape Whittle to Chicatica	202	32,850	–	–	–	–
19	Chicatica to Bonne Espérance	54	16,700	–	–	18	650
20	Bonne Espérance to Blanc Sablon	163	46,700	–	–	80	4,000
21	Anticosti Island	6	250	–	–	–	–
22	Totals for County	1,314	155,220	51	5,100	103	4,800
23	Rimouski—Totals	336	15,400	11	4,400	–	–

II. Agencies of Production, 1920—Part I. In Primary Operations

Fishing Gear										
Hand Lines		Lobster Traps		Fishing Piers and Wharves		Freezers and Ice-houses		Small Fish and Smoke houses		
No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	
	$		$		$		$		$	
18,732	**38,883**	**127,671**	**240,417**	**289**	**142,750**	**227**	**64,600**	**1,549**	**291,930**	**1**
33	75	–	–	–	–	3	500	3	450	2
365	730	1,660	2,440	1	25,000	5	2,000	26	5,500	3
918	1,836	2,950	5,900	5	3,500	17	5,500	35	6,800	4
1,316	2,641	4,610	8,340	6	28,500	25	8,000	64	12,750	5
3,596	7,192	18,895	23,745	8	6,500	10	5,900	39	14,000	6
6,000	12,000	2,500	5,000	20	14,500	28	7,500	355	51,000	7
1,250	2,500	–	–	5	10,000	20	5,000	170	71,000	8
10,846	21,692	21,395	28,745	33	31,000	58	18,400	564	136,000	9
1,500	3,000	40,000	80,000	9	10,500	22	8,500	380	32,000	10
900	1,800	60,000	120,000	14	7,000	12	4,800	43	24,500	11
2,400	4,800	100,000	200,000	23	17,500	34	13,300	423	56,500	12
286	429	–	–	–	–	76	8,500	62	2,480	13
136	408	–	–	4	850	22	5,500	48	8,900	14
1,498	4,494	–	–	14	13,500	1	600	78	9,000	15
480	960	135	270	32	6,100	–	–	45	9,400	16
144	288	505	1,010	15	2,500	–	–	12	2,800	17
472	944	926	1,852	94	25,600	–	–	128	22,500	18
–	–	100	200	15	2,200	–	–	21	3,100	19
695	1,200	–	–	48	7,500	–	–	102	28,000	20
9	27	–	–	–	–	2	3,000	2	500	21
3,720	8,750	1,666	3,332	222	58,250	101	17,600	498	86,680	22
450	1,000	–	–	5	7,500	9	7,300	–	–	23

II. Agencies of Production, 1920—Part I. In Primary Operations

	Fishing Districts	Steam Vessels or Tugs				Boats					Men fishing without boats	Gill Nets		Sei-
		No.	Tonnage	Value	Men	Sail and Row	Value	Gasoline	Value	Total Men	No.	No.	Value	No.
	QUEBEC—INLAND FISHERIES			$	no.	no.	$	no.	$	no.			$	
1	**Total Inland Fisheries for Province**	–	–	–	–	427	13,301	81	22,765	516	79	89	7,725	258
	Below Quebec—													
2	Temiscouata County	–	–	–	–	12	500	3	850	21	12	10	275	1
3	Kamouraska County	–	–	–	–	15	925	2	500	26	11	10	350	2
4	L'Islet County	–	–	–	–	8	250	1	300	12	–	7	250	–
5	Montmagny County	–	–	–	–	16	900	3	1,000	26	8	8	550	–
6	Bellechasse County	–	–	–	–	22	1,250	2	800	29	10	30	2,800	–
7	Montmorency County	–	–	–	–	7	1,100	1	500	18	20	4	500	–
8	Charlevoix County	–	–	–	–	9	400	3	1,200	23	5	5	400	–
9	Chicoutimi County	–	–	–	–	5	800	2	1,000	12	13	15	2,600	1
10	Totals	–	–	–	–	94	6,125	17	6,150	167	79	89	7,725	4
	Above Quebec—													
11	Maskinongé County	–	–	–	–	34	340	4	350	34	–	–	–	138
12	Berthier County	–	–	–	–	37	620	–	–	37	–	–	–	10
13	L'Assomption County	–	–	–	–	10	232	–	–	9	–	–	–	22
14	Argenteuil County	–	–	–	–	14	140	–	–	14	–	–	–	1
15	Labelle County	–	–	–	–	14	454	5	1,150	15	–	–	–	–
16	Temiscamingue County	–	–	–	–	–	–	–	–	–	–	–	–	–
17	Pontiac County	–	–	–	–	–	–	–	–	–	–	–	–	–
18	Vaudreuil County	–	–	–	–	14	255	2	400	14	–	–	–	14
19	Verchères County	–	–	–	–	16	288	–	–	16	–	–	–	9
20	Soulanges County	–	–	–	–	17	425	–	–	24	–	–	–	11
21	Beauharnois County	–	–	–	–	12	385	1	40	12	–	–	–	–
22	Chateauguay County	–	–	–	–	–	–	5	900	18	–	–	–	15
23	Laprairie County	–	–	–	–	12	235	–	–	3	–	–	–	9
24	Chambly County	–	–	–	–	12	300	1	100	26	–	–	–	7
25	Yamaska County	–	–	–	–	71	1,645	24	6,400	62	–	–	–	4
26	Nicolet County	–	–	–	–	33	642	9	1,375	15	–	–	–	12
27	Lévis County	–	–	–	–	30	1,050	3	2,400	48	–	–	–	–
28	Iberville County	–	–	–	–	–	–	5	2,500	7	–	–	–	2
29	Lac St. Jean County	–	–	–	–	7	168	5	1,000	25	–	–	–	–
30	Totals	–	–	–	–	333	7,179	64	16,615	379	–	–	–	254
	ONTARIO											yards		
31	**Totals for Province**	124	3,624	777,857	691	1,088	64,666	803	444,206	3,002	–	5,501,827	766,788	168
	Kenora and Rainy River Districts	5	65	11,200	9	108	7,192	107	49,800	223	–	202,040	40,319	–
32	Lake Superior	26	794	109,500	194	50	4,215	40	30,800	145	–	760,570	106,475	–
33	Lake Huron (North Channel)	20	531	120,200	96	52	3,920	40	18,125	157	–	705,900	105,895	–
34	Georgian Bay	15	407	81,300	65	85	5,675	76	52,770	262	–	1,011,300	108,666	10
35	Lake Huron (proper)	8	174	36,500	44	40	3,260	50	31,250	163	–	340,075	55,670	7
36	Lake St. Clair, etc.	–	–	–	–	95	5,275	62	24,195	237	–	–	–	55
37	Lake Erie	50	1,653	419,157	283	185	12,875	166	130,510	644	–	1,402,600	200,860	53
38	Lake Ontario	–	–	–	–	304	15,986	222	86,291	886	–	1,057,962	144,298	14
39	Inland Waters	–	–	–	–	169	6,268	40	20,465	285	–	21,380	4,605	29
	MANITOBA											no.		
40	**Totals for Province**	17	1,430	213,500	158	303	59,750	11	6,200	512	988	19,213	330,260	
41	Lake Winnipeg	13	1,290	181,000	130	164	34,025	3	2,700	323	232	6,080	132,070	–
42	Lake Winnipegosis	3	100	30,000	22	120	25,000	7	3,000	178	223	7,730	96,400	–
43	The Pas	1	40	2,500	6	17	675	1	500	39	69	751	13,420	–
44	Buffalo Bay	–	–	–	–	2	50	–	–	2	1	30	750	–
45	Lake Manitoba	–	–	–	–	–	–	–	–	–	304	3,040	60,800	–
46	Lake St. Martin	–	–	–	–	–	–	–	–	–	110	1,100	22,000	–
47	Lake Waterhen	–	–	–	–	–	–	–	–	–	27	130	1,300	–
48	Lake Dauphin	–	–	–	–	–	–	–	–	–	17	272	2,720	–
49	Red Deer Lake	–	–	–	–	–	–	–	–	–	5	80	800	–

NOTE.—In addition to above, equipment to the value of $4,100 was used in operations under settlers' permits in Manitoba.

II. Agencies of Production, 1920—Part I. In Primary Operations

Fishing Gear																			
nes	Pound Nets		Hoop Nets		Dip or Roll Nets		Lines		Spears		Weirs		Piers and Wharves		Freezers and Ice houses		Small Fish and Smoke houses		
Value	No.	Value	No	Value	No.	Value	No.	Value	No.	Value	No.	Value	No	Value	No.	Value	No.	Value	
$		$		$		$		$		$		$		$		$		$	
4,637	**24**	**872**	**810**	**11,597**	**–**	**–**	**338**	**919**	**–**	**–**	**321**	**41,058**	**–**	**–**	**41**	**5,525**	**16**	**2,100**	**1**
100	–	–	–	–	–	–	–	–	–	–	28	2,200	–	–	3	500	5	450	2
100	–	–		–	–	–	–	–	–	–	39	3,200	–	–	4	600	5	750	3
–	–	–	–		–	–	–	–	–	–	12	600	–	–	6	400	–	–	4
–	–	–	–	–	–	–	–	–	–	–	35	5,900	–	–	–	–	–	–	5
–	–	–	–	–	–	–	–	–	–	–	20	11,200	–	–	–	–	6	900	6
–	–	–	–	–	–	–	–	–	–	–	102	11,000	–	–	3	700	–	–	7
–	–	–	–	–	–	–	–	–	–	–	35	2,200	–	–	2	450	–	–	8
100	–	–	–	–	–	–	–	–	–	–	8	900	–	–	2	400	–	–	9
300	–	–	–	–	–	–	–	–	–	–	279	37,200	–	–	20	3,050	16	2,100	10
1,380	–	–	–	–	–	–	8	40	–	–	–	–	–	–	–	–	–	–	11
200	–	–	126	945	–	–	9	45	–	–	–	–	–	–	–	–	–	–	12
250	–	–	–	–	–	–	–	–	–	–	4	40	–	–	–	–	–	–	13
60	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	14
–	–	–	84	1,010	–	–	9	40	–	–	–	–	–	–	9	675	–	–	15
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	16
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	17
42	4	12	–	–	–	–	5	35	–	–	–	–	–	–	–	–	–	–	18
395	–	–	15	140	–	–	3	5	–	–	–	–	–	–	–	–	–	–	19
400	–	–	–	–	–	–	6	40	–	–	–	–	–	–	–				20
–	–	–	–	–	–	–	33	137	–	–	1	3	–	–	–	–	–	–	21
565	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	22
330	–	–	–	–	–	–	4	12	–	–	–	–	–	–	–	–	–	–	23
215	–	–	–	–	–	–	68	335	–	–	18	80	–	–	–	–	–	–	24
100	–	–	462	8,316	–	–	10	25	–	–	–	–	–	–	–	–	–	–	25
320	–	–	123	1,186	–	–	170	130	–	–	–	–	–	–	–	–	–	–	26
–	–	–	–	–	–	–	–	–	–	–	19	3,735	–	–	2	75	–	–	27
80	20	860	–	–	–	–	13	75	–	–	–	–	–				–	–	28
–	–	–	–	–	–	–	–	–	–	–	–	–		–	10	1,725	–	–	29
4,337	24	872	810	11,597	–	–	338	919	–	–	42	3,858	–	–	21	2,475	–	–	30
29,668	**1080**	**775,435**	**1442**	**83,140**	**29**	**255**	**642**	**6,163**	**122**	**410**	**–**	**–**	**275**	**94,963**	**443**	**226,120**	**–**	**–**	**31**
–	62	20,385	35	1,570	–	–	–	–	–	–	–	–	72	13,800	87	24,000	–	–	
–	55	38,300	1	60	–	–	26	180	–	–	–	–	25	9,235	29	15,005	–	–	32
–	187	123,650	7	550	–	–	–	–	–	–	–	–	26	22,550	31	9,900	–	–	33
725	23	19,500	28	765	–	–	288	4,505	–	–	–	–	28	8,970	31	11,100	–	–	34
710	69	40,550	2	150	2	10	23	190	–	–	–	–	15	2,100	30	10,640	–	–	35
7,990	14	4,400	229	39,850	1	10	16	130	–	–	–	–	10	3,550	44	14,425	–	–	36
14,275	637	517,800	26	695	19	185	71	195	–	–	–	–	63	28,560	113	121,285	–	–	37
2,500	–	–	725	27,390	1	20	71	364	–	–	–	–	22	2,533	50	8,030	–	–	38
3,468	33	10,850	389	12,110	6	30	147	599	122	410	–	–	14	3,665	28	12,035	–	–	39
–	–	–	–	–	–	–	**20**	**110**	–	–	–	–	**21**	**21,900**	**55**	**113,300**	**38**	**19,000**	**40**
–	–	–	–	–	–	–	–	–	–	–	–	–	19	16,000	43	99,000	13	6,000	41
–	–	–	–	–	–	–	–	–	–	–	–	–	5	5,000	8	12,000	6	3,000	42
–	–	–	–	–	–	–	20	110	–	–	–	–	–	–	4	2,300	2	3,000	43
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	44
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	17	7,000	45
–	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–	–	–	46
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	47
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	48
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	49

II. Agencies of Production, 1920—Part I. In Primary Operations

	Fishing Districts	Vessels				Boats					Men fiishing without boats
		Steam Vessels or Tugs				Sail and Row		Gasoline		Total Men	
		No.	Tonnage	Value	Men	No.	Value	No.	Value	No.	No.
	SASKATCHEWAN			$	no.		$		$		
1	**Totals for Province**	-	-	-	-	**103**	**2,193**	**14**	**5,850**	**131**	**446**
2	Des Isles Lake District	-	-	-	-	-	-	-	-	-	3
3	Onion Lake District	-	-	-	-	-	-	-	-	-	20
4	Jackfish Lake District	-	-	-	-	8	220	3	650	11	40
5	Turtle Lake District	-	-	-	-	5	100	3	700	8	87
6	Waterhen Lake District	-	-	-	-	-	-	-	-	-	29
7	Isle A'La Cross District	-	-	-	-	18	356	-	-	18	4
8	Dore Lake District	-	-	-	-	2	100	-	-	2	85
9	Okemasis Lake District	-	-	-	-	5	250	2	1,500	13	15
10	Montreal Lake District	-	-	-	-	-	-	-	-	-	43
11	Candle Lake District	-	-	-	-	-	-	-	-	-	14
12	Wakaw Lake District	-	-	-	-	-	-	-	-	-	1
13	Lac La Ronge District	-	-	-	-	2	30	-	-	2	14
14	Green Lake District	-	-	-	-	6	240	-	-	6	7
15	Lowes Lake District	-	-	-	-	30	600	6	3,000	44	45
16	Qu'Appelle Lake District	-	-	-	-	-	-	-	-	-	14
17	Devils and Fishing Lakes	-	-	-	-	-	-	-	-	-	3
18	Katepwe District	-	-	-	-	-	-	-	-	-	5
19	Saskatchewan River District	-	-	-	-	27	297	-	-	27	17
	ALBERTA										
20	**Totals for Province**	**1**	**16**	**2,000**	**5**	**74**	**2,740**	**92**	**47,150**	**278**	**348**
21	Wabamun District	-	-	-	-	-	-	11	2,200	14	5
22	Lesser Slave Lake District	1	16	2,000	5	46	1,840	65	35,750	199	28
23	Lac Ste. Anne District	-	-	-	-	-	-	6	1,200	12	9
24	Lac La Biche District	-	-	-	-	28	900	10	8,000	53	10
25	Athabasca District	-	-	-	-	-	-	-	-	-	24
26	Buffalo Lake District	-	-	-	-	-	-	-	-	-	90
27	Cold Lake District	-	-	-	-	-	-	-	-	-	58
28	Edson District	-	-	-	-	-	-	-	-	-	5
29	Ministik Lake District	-	-	-	-	-	-	-	-	-	1
30	Moose Lake District	-	-	-	-	-	-	-	-	-	11
31	Pigeon Lake District	-	-	-	-	-	-	-	-	-	66
32	Saddle Lake District	-	-	-	-	-	-	-	-	-	10
33	Sturgeon River District	-	-	-	-	-	-	-	-	-	5
34	Trout Lake District	-	-	-	-	-	-	-	-	-	16
35	Sturgeon Lake District	-	-	-	-	-	-	-	-	-	10
	YUKON										
36	**Totals for Territory**	-	-	-	-	**48**	**1,300**	**2**	**1,050**	**69**	-

NOTE.—In addition to the above, equipment was used under domestic license in Saskatchewan to the value of $9,377, and in Alberta to the value of $13,369.

II. Agencies of Production, 1920—Part I. In Primary Operations

Fishing Gear																
Gill Nets		Pound Nets		Hoop Nets		Lines		Fish Wheels		Piers and Wharves		Freezers and Ice Houses		Small Fish and Smoke Houses		
No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	
	$		$		$		$		$		$		$		$	
1,792	**41,928**	–	–	**30**	**300**	**16**	**90**	–	–	**15**	**1,850**	**25**	**3,900**	**4**	**345**	**1**
9	225	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2
60	1,200	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3
153	2,700	–	–	–	–	–	–	–	–	6	600	6	600	–	–	4
273	5,460	–	–	–	–	–	–	–	–	2	100	2	400	–	–	5
87	1,740	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6
66	1,650	–	–	–	–	–	–	–	–	2	200	–	–	–	–	7
386	8,270	–	–	–	–	–	–	–	–	1	50	2	600	1	300	8
125	2,480	–	–	–	–	–	–	–	–	2	200	4	1,000	–	–	9
129	3,225	–	–	–	–	–	–	–	–	–	–	–	–	–	–	10
42	1,050	–	–	–	–	–	–	–	–	–	–	–	–	–	–	11
3	60	–	–	–	–	–	–	–	–	–	–	–	–	–	–	12
39	975	–	–	–	–	–	–	–	–	–	–	–	–	–	–	13
42	500	–	–	–	–	–	–	–	–	–	–	1	300	–	–	14
268	8,937	–	–	–	–	–	–	–	–	2	700	10	1,000	–	–	15
62	2,480	–	–	–	–	–	–	–	–	–	–	–	–	–	–	16
18	376	–	–	–	–	–	–	–	–	–	–	–	–	–	–	17
16	320	–	–	–	–	–	–	–	–	–	–	–	–	–	–	18
14	280	–	–	30	300	16	90	–	–	–	–	–	–	3	45	19
3,556	**81,775**	**4**	**800**	–	–	–	–	–	–	**27**	**10,005**	**36**	**10,760**	**35**	**1,725**	**20**
98	3,920	–	–	–	–	–	–	–	–	8	280	11	550	8	400	21
1,820	32,760	–	–	–	–	–	–	–	–	14	5,650	18	5,000	8	700	22
142	5,680	–	–	–	–	–	–	–	–	3	75	3	210	4	120	23
235	10,575	4	800	–	–	–	–	–	–	2	4,000	4	5,000	–	–	24
69	1,380	–	–	–	–	–	–	–	–	–	–	–	–	6	180	25
540	13,500	–	–	–	–	–	–	–	–	–	–	–	–	–	–	26
160	4,800	–	–	–	–	–	–	–	–	–	–	–	–	–	–	27
30	600	–	–	–	–	–	–	–	–	–	–	–	–	1	35	28
6	180	–	–	–	–	–	–	–	–	–	–	–	–	1	20	29
24	1,500	–	–	–	–	–	–	–	–	–	–	–	–	–	–	30
320	4,480	–	–	–	–	–	–	–	–	–	–	–	–	6	240	31
18	800	–	–	–	–	–	–	–	–	–	–	–	–	–	–	32
19	475	–	–	–	–	–	–	–	–	–	–	–	–	1	30	33
40	250	–	–	–	–	–	–	–	–	–	–	–	–	–	–	34
35	875	–	–	–	–	–	–	–	–	–	–	–	–	–	–	35
146	**4,510**	–	–	–	–	–	–	**4**	**850**	–	–	–	–	–	–	**36**

II Agencies of Production, 1920—Part I. In Primary Operations

	Fishing Districts	Steam Trawlers				Vessels						
						Steam				Sailing and		
		No.	Tonnage	Value	Men	No.	Tonnage	Value	Men	40 ton and over	20-40 tons	10-20 tons
	British Columbia			$	no.			$	no.	no.	no.	no.
1	**Totals for Province**	**4**	**437**	**265,000**	**87**	**21**	**1,520**	**642,500**	**188**	**12**	**85**	**159**
2	District No. 1—Totals	1	150	40,000	12	4	499	190,000	51	3	18	8
	District No. 2—											
3	Skeena River District	3	287	225,000	75	2	57	20,500	10	5	14	55
4	Rivers Inlet District	–	–	–	–	2	61	16,000	7	–	5	11
5	Naas River District	–	–	–	–	–	–	–	–	–	9	9
6	Bella Coola and Kimsquit	–	–	–	–	2	60	14,000	8	–	–	7
7	Addenbrooke Island to Lowe Inlet	–	–	–	–	2	106	47,000	16	2	12	14
8	Queen Charlotte Islands	–	–	–	–	5	500	250,000	55	–	1	3
9	Totals for district	3	287	225,000	75	13	784	347,500	96	7	41	99
	District No. 3—											
10	Cape Scott to Tatchu Point	–	–	–	–	3	112	75,000	33	–	–	–
11	Tatchu Point to and including Wreck Bay	–	–	–	–	–	–	–	–	–	–	10
12	Wreck Bay to San Juan Harbour	–	–	–	–	1	125	30,000	8	–	15	12
13	Esquimalt Harbour to North side Cowichan Bay	–	–	–	–	–	–	–	–	–	3	4
14	Cowichan Bay to and including Big Qualicum River	–	–	–	–	–	–	–	–	1	2	4
15	Big Qualicum River to and including Oyster River	–	–	–	–	–	–	–	–	1	–	1
16	Oyster River to Adams River, with surrounding district	–	–	–	–	–	–	–	–	–	1	12
17	Adams River to Cape Scott, with surrounding district	–	–	–	–	–	–	–	–	–	4	7
18	Bute Inlet to Gower Point	–	–	–	–	–	–	–	–	–	1	2
19	Totals for district	–	–	–	–	4	237	105,000	41	2	26	52

	Fishing Districts	Fishing Gear			
		Gill Nets, Seines, Trap and Smelt Nets, etc.		Trawls	
		No.	Value	No.	Value
	British Columbia—concluded		$		$
20	**Totals for Province**	**6,192**	**2,018,380**	**9,594**	**142,381**
21	District No. 1—Totals	2,074	506,550	4,107	51,300
	District No. 2—				
22	Skeena River District	1,303	335,793	5,487	91,081
23	Rivers Inlet District	888	220,577	–	–
24	Naas River District	515	212,435	–	–
25	Bella Coola and Kimsquit	421	126,900	–	–
26	Addenbrooke Island to Lowe Inlet	243	138,575	–	–
27	Queen Charlotte Islands	31	19,000	–	–
28	Totals for district	3,401	1,053,280	5,487	91,081
	District No. 3—				
29	Cape Scott to Tatchu Point	–	–	–	–
30	Tatchu Point to and including Wreck Bay	31	2,025	–	–
31	Wreck Bay to San Juan Harbour	103	89,200	–	–
32	Esquimalt Harbour to North side Cowichan Bay	34	67,405	–	–
33	Cowichan Bay to and including Big Qualicum River	129	62,370	–	–
34	Big Qualicum River to and including Oyster River	4	4,450	–	–
35	Oyster River to Adams River with surrounding district	17	40,600	–	–
36	Adams River to Cape Scott, with surrounding district	148	136,900	–	–
37	Bute Inlet to Gower Point	251	55,600	–	–
38	Totals for district	717	458,550	–	–

II Agencies of Production, 1920—Part I. In Primary Operations

Gasoline		Boats					Carrying Smacks			
		Sail and Row		Gasoline		Total				
Total Value	Total Men	No.	Value	No.	Value	Men	No.	Value	Men	
$	no.		$		$	no.		$	no.	
2,399,322	**1,048**	**3,485**	**400,669**	**3,371**	**2,761,840**	**10,262**	**68**	**168,000**	**84**	**1**
250,400	90	220	19,200	1,148	459,200	2,242	55	82,500	55	2
907,582	289	1,214	161,319	492	920,475	3,313	–	–	–	3
86,400	38	970	79,320	7	18,000	998	–	–	–	4
118,350	52	331	80,930	75	45,000	528	–	–	–	5
26,500	20	191	25,380	4	1,600	204	–	–	–	6
298,750	154	170	17,940	24	56,600	217	–	–	–	7
28,000	16	16	1,200	49	88,200	130	–	–	–	8
1,465,582	569	2,892	366,089	651	1,129,875	5,390	–	–	–	9
–	–	–	–	1	600	1	–	–	–	10
54,000	32	23	1,595	275	232,910	329	–	–	–	11
239,500	112	–	–	505	454,500	1,016	–	–	–	12
63,340	60	3	130	28	18,225	45	–	–	–	13
70,500	28	32	1,470	303	199,445	352	–	–	–	14
16,000	16	26	925	4	2,195	30	–	–	–	15
92,000	50	85	3,455	51	23,965	140	–	–	–	16
129,000	77	152	5,475	114	72,300	364	7	56,000	17	17
19,000	14	52	2,330	291	168,625	353	6	29,500	12	18
683,340	389	373	15,380	1,572	1,172,765	2,630	13	85,500	29	19

Fishing Gear												
Hand Lines		Crab Traps		Oyster Plant and Equipment		Fishing Piers and Wharves		Freezers and Ice Houses		Small Fish and Smoke houses		
No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	
	$		$		$		$		$		$	
6,823	**39,777**	**4,500**	**27,000**	**1**	**19,360**	**2**	**1,500**	**5**	**214,750**	**39**	**84,800**	**20**
700	3,500	4,500	27,000	1	19,360	–	–	1	200,000	28	59,000	21
–	–	–	–	–	–	–	–	–	–	–	–	22
9	27	–	–	–	–	–	–	–	–	–	–	23
288	864	–	–	–	–	–	–	–	–	–	–	24
12	36	–	–	–	–	–	–	–	–	–	–	25
128	378	–	–	–	–	–	–	–	–	–	–	26
330	990	–	–	–	–	–	–	–	–	–	–	27
767	2,295	–	–	–	–	–	–	–	–	–	–	28
–	–	–	–	–	–	–	–	–	–	–	–	29
1,102	10,925	–	–	–	–	–	–	–	–	1	1,000	30
2,000	12,000	–	–	–	–	–	–	2	6,000	3	11,800	31
43	118	–	–	–	–	–	–	1	8,500	1	3,000	32
918	4,217	–	–	–	–	2	1,500	–	–	5	9,500	33
61	240	–	–	–	–	–	–	–	–	–	–	34
370	1,943	–	–	–	–	–	–	–	–	–	–	35
404	1,801	–	–	–	–	–	–	1	250	–	–	36
458	2,738	–	–	–	–	–	–	–	–	1	500	37
5,356	33,982	–	–	–	–	2	1,500	4	14,750	11	25,800	38

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(a) General Summary of Statistics

	Province and County or District	Establishments	Capital	Total of Employees and of Salaries and Wages		Proprietors who regularly perform manual labour in establishments
		no.	$	no.	$	no.
1	**Canada—Totals**	**940**	**20,512,265**	**18,499**	**4,856,290**	**329**
2	Lobster canneries	578	2,426,920	8,281	893,770	226
3	Salmon canneries	67	10,072,356	6,322	2,203,177	4
4	Clam canneries	9	90,449	162	29,570	2
5	Sardine and other fish canneries	8	750,204	755	218,531	2
6	Whale oil and fish oil factories	11	1,558,147	236	224,357	10
7	Fish curing establishments	267	5,614,189	2,743	1,286,885	85
8	**Prince Edward Island—Totals**	**192**	**387,829**	**2,000**	**175,658**	**72**
9	Lobster canneries	183	340,199	1,952	165,998	71
10	Clam canneries	2	4,100	23	653	1
11	Other fish canneries	1				
12	Fish curing establishments	6	43,530	25	9,007	–
	Kings County—					
13	Lobster canneries	45	124,191	701	70,687	3
14	Clam canneries	1				
15	Fish curing establishments	3	35,195	19	8,152	–
	Queens County—					
16	Lobster canneries	52	72,405	422	33,147	–
17	Fish curing establishments	2				
	Prince County—					
18	Lobster canneries	86	151,038	841	62,829	68
19	Clam canneries	1				
20	Other fish canneries	1	5,000	17	843	1
21	Fish curing establishments	1				
22	**Nova Scotia—Totals**	**275**	**3,953,400**	**4,609**	**1,041,212**	**50**
23	Lobster canneries	152	1,349,783	3,235	445,404	19
24	Clam canneries	2				
25	Other fish canneries	4	326,509	141	78,782	3
26	Fish oil factories	2				
27	Fish curing establishments	115	2,277,108	1,233	517,026	28
	Richmond County—					
28	Lobster canneries	8	21,488	205	12,861	–
29	Fish curing establishments	5	19,033	27	7,127	2
	Cape Breton County—					
30	Lobster canneries	9	35,812	298	32,297	1
31	Fish oil factory	1				
32	Fish curing establishments	6	26,300	16	5,347	4
	Victoria County—					
33	Lobster canneries	13	29,623	209	15,449	1
34	Fish oil factory	1				
35	Fish curing establishments	12	71,781	157	32,418	3
	Inverness County—					
36	Lobster canneries	24	226,862	498	65,626	–
37	Fish curing establishments	7	659,860	208	124,517	–
	Cumberland County—					
38	Lobster canneries	19	68,132	197	18,154	3
39	Fish curing establishments	9	37,300	68	6,432	1
	Pictou County—					
40	Lobster canneries	16	113,784	382	42,885	5
41	Fish curing establishments	1				
	Antigonish County—					
42	Lobster canneries	10	33,038	233	25,496	2
	Guysborough County—					
43	Lobster canneries	12	392,191	378	139,956	
44	Other fish canneries	2				
45	Fish curing establishments	6	119,893	105	49,115	–
	Halifax County—					
46	Lobster canneries	9	26,760	143	17,890	–
47	Fish curing establishments	7	86,273	85	61,012	–

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(a) General Summary of Statistics

Fuel Used	Miscellaneous Expenses	Value of Materials Used		Total Expenses	Value of Products		
		Fish	Salt, Containers, etc.		Fish Marketed Fresh	Fish Canned, Cured or otherwise Prepared	
$	$	$	$	$	$	$	
581,520	**2,326,073**	**14,347,089**	**5,015,940**	**27,126,912**	**5,092,174**	**25,807,973**	1
121,385	293,358	3,776,659	745,119	5,830,291	552,727	6,329,861	2
219,612	1,165,136	4,464,164	3,135,533	11,187,622	156,843	13,433,007	3
3,750	4,302	41,488	40,434	119,544	–	131,772	4
29,481	89,316	233,367	374,407	945,102	111,434	944,981	5
129,573	334,691	58,085	2,185	748,891	–	565,835	6
77,719	439,270	5,773,326	718,262	8,295,462	4,271,170	4,402,517	7
34,628	**123,451**	**680,919**	**165,211**	**1,179,897**	**8,378**	**1,436,603**	8
33,860	122,227	660,060	160,581	1,142,726	4,198	1,404,086	9
116	108	624	758	2,259	–	2,172	10
							11
652	1,116	20,265	3,872	34,912	4,180	30,345	12
10,751	40,614	244,692	58,594	425,338	–	560,554	13
							14
556	1,051	17,492	3,593	30,844	4,180	26,105	15
9,155	37,140	142,556	31,372	253,370	2,980	292,682	16
							17
14,122	44,538	274,461	70,953	466,903	1,218	553,628	18
							19
44	108	1,748	699	3,442	–	3,634	20
							21
115,437	**347,011**	**4,957,601**	**739,815**	**7,201,076**	**1,833,137**	**6,395,057**	22
43,299	123,505	2,259,994	407,336	3,279,538	440,684	3,359,813	23
							24
12,532	11,982	167,985	38,557	309,638	111,434	255,782	25
							26
59,606	211,524	2,529,622	293,922	3,611,700	1,281,019	2,779,462	27
1,439	4,869	102,167	13,815	135,151	17,896	130,199	28
594	556	23,460	2,428	34,165	–	32,756	29
2,110	13,492	172,755	30,067	250,721	–	277,329	30
							31
175	1,241	11,968	1,518	20,249	–	25,140	32
1,905	4,030	69,086	15,287	105,757	–	131,290	33
							34
572	6,769	82,240	12,610	134,609	3,000	118,643	35
3,898	24,015	269,245	55,235	418,019	12,059	445,275	36
22,712	30,003	632,205	49,374	858,811	425,833	563,070	37
3,922	6,129	71,542	15,259	115,006	350	136,397	38
1,764	1,392	16,450	9,128	35,166	–	44,494	39
5,106	27,771	172,563	37,861	286,186	–	346,757	40
							41
2,741	6,849	116,920	20,474	172,480	–	196,674	42
19,084	21,605	396,284	74,739	651,668	205,389	528,681	43
							44
8,865	19,247	182,494	28,328	288,049	169,447	144,777	45
2,812	3,781	104,749	13,733	142,965	22,877	149,636	46
30	82,284	213,865	18,422	375,613	108,170	282,257	47

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(a) General Summary of Statistics—*con.*

	Province and County or District	Establishments	Capital	Total of Employees and of Salaries and Wages		Proprietors who regularly perform manual labour in establishments
		no.	$	no.	$	no.
	Nova Scotia—concluded.					
	Lunenburg County—					
1	Lobster canneries	2				
2	Clam canneries	1	15,550	71	18,600	–
3	Fish curing establishments	1				
	Queens County—					
4	Lobster canneries	2				
5	Fish curing establishments	6	303,157	86	43,602	2
	Shelburne County—					
6	Lobster canneries	12	150,107	215	34,182	5
7	Fish curing establishments	14	449,481	171	74,214	5
	Yarmouth County—					
8	Lobster canneries	11	100,730	348	47,916	3
9	Other fish canneries	1				
10	Fish curing establishments	11	267,005	135	48,309	1
	Digby County—					
11	Lobster canneries	5	450,855	218	56,266	1
12	Clam canneries	1				
13	Other fish canneries	1				
14	Fish curing establishments	26	244,885	146	59,539	11
	Annapolis County—					
15	Fish curing establishments	4	3,500	10	2,002	–
16	**New Brunswick—Totals**	**254**	**1,364,054**	**3,107**	**466,471**	**130**
17	Lobster canneries	177	440,226	1,911	168,276	91
18	Clam canneries	4	469,087	608	153,754	–
19	Sardine and other fish canneries	2				
20	Fish curing establishments	71	454,741	588	144,441	39
	Charlotte County—					
21	Clam canneries	4	469,087	608	153,754	–
22	Sardine and other fish canneries	2				
23	Fish curing establishments	19	87,310	90	25,639	14
	St. John County—					
24	Fish curing establishments	9	132,339	73	36,466	4
	Westmorland County—					
25	Lobster canneries	20	90,810	174	24,361	8
26	Fish curing establishments	27	71,907	289	28,614	18
	Kent County—					
27	Lobster canneries	27	124,134	483	52,579	8
28	Fish curing establishments	2				
	Northumberland County—					
29	Lobster canneries	20	113,291	419	42,809	3
30	Fish curing establishments	2				
	Gloucester County—					
31	Lobster canneries *	110	180,791	893	70,125	72
32	Fish curing establishments	12	94,385	78	32,124	3
33	**Quebec—Totals**	**110**	**675,742**	**1,566**	**182,685**	**56**
34	Lobster canneries	66	296,712	1,183	114,092	45
35	Salmon canneries	3	15,150	107	6,797	3
36	Other fish canneries	1				
37	Fish curing establishments	40	363,880	276	61,796	8
	Bonaventure County—					
38	Lobster canneries	7	8,087	46	2,660	2
39	Fish curing establishments	9	95,015	45	13,923	–
	Gaspé County—					
40	Lobster canneries	6	65,350	143	11,475	1
41	Fish curing establishments	25	159,590	159	31,833	5

*Gloucester County includes two lobster canneries for Restigouche County.

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(a) General Summary of Statistics—*con.*

Fuel Used	Miscellaneous Expenses	Value of Materials Used		Total Expenses	Value of Products		
		Fish	Salt, Containers, etc.		Fish Marketed Fresh	Fish Canned, Cured or otherwise Prepared	
$	$	$	$	$	$	$	
846	1,209	92,542	6,453	119,650	23,400	120,247	1
							2
							3
							4
10,456	12,984	201,846	22,987	291,875	172,676	178,336	5
3,112	5,068	300,239	41,653	384,254	133,822	376,659	6
8,395	18,666	259,368	44,634	405,277	122,700	321,953	7
3,629	7,912	373,948	49,398	482,803	64,303	504,291	8
							9
2,123	20,761	592,690	38,684	702,567	234,037	568,808	10
5,370	9,350	179,673	68,869	319,528	23,562	311,936	11
							12
3,297	16,973	294,832	66,486	441,127	79,134	441,281	13
							14
480	55	24,470	2,373	29,380	14,482	18,171	15
53,193	**140,852**	**1,102,160**	**539,596**	**2,302,272**	**556,765**	**2,068,252**	**16**
23,130	28,981	455,623	96,121	772,131	105,345	789,476	17
19,333	79,949	88,572	354,440	696,048	–	761,036	18
							19
10,730	31,922	557,965	89,035	834,093	451,420	517,740	20
19,333	79,949	88,572	354,440	696,048	–	761,036	21
							22
1,591	6,267	134,484	16,241	184,222	39,447	167,372	23
2,079	11,667	150,724	16,051	216,987	95,473	142,146	24
4,989	8,416	87,931	18,144	143,841	34,010	118,648	25
5,498	2,472	37,607	28,346	102,537	720	124,499	26
5,587	6,303	175,138	29,163	268,770	87,753	219,170	27
							28
3,241	7,831	166,849	27,105	247,835	139,677	174,101	29
							30
9,933	12,129	151,300	33,531	277,018	22,825	297,847	31
942	5,818	109,555	16,575	165,014	136,860	63,433	32
24,678	**31,587**	**594,353**	**126,447**	**959,750**	**3,906**	**1,084,532**	**33**
21,096	18,645	400,982	81,081	635,896	2,500	776,486	34
950	–	9,146	10,406	27,299	–	29,459	35
							36
2,632	12,942	184,225	34,960	296,555	1,406	278,587	37
612	175	11,429	1,944	16,820	–	13,330	38
600	2,138	30,829	4,435	51,925	–	44,973	39
1,680	5,669	35,640	7,677	62,141	400	75,484	40
126	7,744	88,264	13,525	141,492	1,406	130,486	41

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(a) General Summary of Statistics—*concluded*

	Province and County or District	Establishments	Capital	Total of Employees and of Salaries and Wages		Proprietors who regularly perform manual labour in establishments
		no.	$	no.	$	no.
	Quebec—concluded.					
	Magdalen Islands—					
1	Lobster canneries	28	233,475	1,095	106,559	3
2	Other fish canneries	1				
3	Fish curing establishments	3	36,175	35	7,940	-
	Saguenay County—					
4	Lobster canneries	25	4,300	4	35	39
5	Salmon canneries	3	650	2	160	3
6	Fish curing establishments	3	73,100	37	8,100	3
7	**Manitoba—Totals**	**2**	**26,160**	**5**	**2,148**	**-**
8	Fish curing establishments	2	26,160	5	2,148	-
9	**British Columbia—Totals**	**107**	**14,105,080**	**7,212**	**2,988,116**	**21**
10	Salmon canneries	64	10,098,163	6,360	2,211,292	1
11	Clam canneries	1				
12	Whale oil and fish oil factories	9	1,549,347	232	220,096	8
13	Fish curing establishments	33	2,457,570	620	556,728	12
	District No. 1—					
14	Salmon canneries	11	1,384,093	670	218,640	-
15	Fish oil factories	2				
16	Fish curing establishments	17	640,261	197	172,381	8
	District No. 2—					
17	Salmon canneries	41	6,726,908	4,677	1,509,190	1
18	Fish oil factory	2				
19	Fish curing establishments	2	2,577,979	343	447,663	-
	District No. 3—					
20	Salmon canneries	12	1,987,162	1,013	483,462	-
21	Clam canneries	1				
22	Whale oil and fish oil factories	5	577,865	85	76,614	8
23	Fish curing establishments	14	210,812	227	80,166	4

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(a) General Summary of Statistics—*concluded.*

Fuel Used	Miscellaneous Expenses	Value of Materials Used		Total Expenses	Value of Products		
		Fish	Salt, Containers, etc.		Fish marketed Fresh	Fish Canned, Cured or Otherwise Prepared	
$	$	$	$	$	$	$	
19,273	12,801	352,685	79,030	570,348	2,100	698,482	1
1,506	1,360	21,432	11,350	43,588	–	41,828	2
							3
481	–	9,527	2,516	12,559	–	16,953	4
–	–	847	320	1,327	–	1,696	5
400	1,700	43,700	5,650	59,550	–	61,300	6
410	**200**	**11,802**	**395**	**17,955**	–	**23,504**	**7**
410	200	14,802	395	17,955	–	23,504	8
353,174	**1,682,972**	**6,997,224**	**3,444,476**	**15,465,962**	**2,689,988**	**14,800,035**	**9**
219,912	1,166,715	4,472,692	3,146,213	11,216,824	156,843	13,461,311	10
							11
129,315	333,486	52,470	1,922	737,289	–	551,062	12
3,947	182,771	2,472,062	296,341	3,511,849	2,533,145	787,652	13
20,015	128,486	703,722	329,856	1,400,719	27,478	1,690,876	14
							15
4,321	83,845	890,538	92,699	1,243,784	1,036,743	300,390	16
152,656	847,121	2,880,780	2,068,489	7,458,236	38,304	9,130,069	17
							18
88,742	290,613	1,372,144	66,574	2,265,736	1,483,038	370,551	19
47,241	191,108	888,190	747,868	2,357,869	91,061	2,640,366	20
							21
39,940	118,618	20,845	160	256,177	–	190,427	22
259	23,181	241,005	138,830	483,441	13,364	477,346	23

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(b) Capital Invested

Province and County or District	Establishments	Land, Buildings and Fixtures	Machinery and Tools	Materials and Products on hand, Fuel and Miscellaneous Supplies	Cash and Operating Accounts	Total Capital Invested
	no.	$	$	$	$	$
Canada—Totals	**940**	**6,516,348**	**3,824,376**	**7,578,506**	**2,593,035**	**20,512,265**
Lobster canneries	578	1,166,629	508,105	436,492	315,694	2,426,920
Salmon canneries	67	2,568,090	1,677,672	4,771,778	1,054,816	10,072,356
Clam canneries	9	20,211	13,450	37,130	19,658	90,449
Sardine and other fish canneries	8	192,114	149,306	355,505	53,279	750,204
Whale oil and fish oil factories	11	431,186	753,393	336,697	36,871	1,558,147
Fish curing establishments	267	2,138,118	722,450	1,640,904	1,112,717	5,614,189
Prince Edward Island—Totals	**192**	**216,980**	**83,735**	**80,379**	**6,735**	**387,829**
Lobster canneries	183	194,630	74,788	67,566	3,215	340,199
Clam canneries	2	3,500	600	–	–	4,100
Other fish canneries	1					
Fish curing establishments	6	18,850	8,347	12,813	3,520	43,530
Kings County—						
Lobster canneries	45	78,200	37,087	8,904	–	124,191
Clam canneries	1					
Fish curing establishments	3	13,750	7,758	10,187	3,500	35,195
Queens County—						
Lobster canneries	52	38,550	10,055	23,760	40	72,405
Fish curing establishments	2					
Prince County—						
Lobster canneries	86	81,980	28,335	37,528	3,195	151,038
Clam canneries	1					
Other fish canneries	1	4,500	500	–	–	5,000
Fish curing establishments	1					
Nova Scotia—Totals	**275**	**1,930,097**	**703,255**	**782,393**	**537,655**	**3,953,400**
Lobster canneries	152	631,049	292,532	223,196	203,006	1,349,783
Clam canneries	2	110,698	69,094	107,297	39,420	326,509
Other fish canneries	4					
Fish oil factories	2	1,188,350	341,629	451,900	295,229	2,277,108
Fish curing establishments	115					
Richmond County—						
Lobster canneries	8	13,542	4,231	1,328	2,387	21,488
Fish curing establishments	5	4,480	1,380	1,873	11,300	19,033
Cape Breton County—						
Lobster canneries	9	15,753	8,919	6,387	4,753	35,812
Fish oil factory	1					
Fish curing establishments	6	9,000	7,700	7,800	1,800	26,300
Victoria County—						
Lobster canneries	13	19,618	7,205	2,500	300	29,623
Fish oil factory	1					
Fish curing establishments	12	35,125	14,355	15,428	6,873	71,781
Inverness County—						
Lobster canneries	24	100,156	56,882	18,402	51,422	226,862
Fish curing establishments	7	388,142	169,305	78,867	23,546	659,860
Cumberland County—						
Lobster canneries	10	37,208	25,931	4,193	800	68,132
Fish curing establishments	9	20,300	1,800	12,700	2,500	37,300
Pictou County—						
Lobster canneries	16	50,686	42,229	14,439	6,430	113,784
Fish curing establishments	1					
Antigonish County—						
Lobster canneries	10	16,019	11,969	4,103	947	33,038
Guysborough County—						
Lobster canneries	12	167,793	71,562	110,641	42,195	392,191
Other fish canneries	2					
Fish curing establishments	6	74,378	16,707	19,383	9,425	119,893
Halifax County—						
Lobster canneries	9	9,900	5,400	8,960	2,500	26,760
Fish curing establishments	7	16,549	1,414	28,250	40,060	86,273
Lunenburg County—						
Lobster canneries	2					
Clam canneries	1	7,100	3,450	1,000	4,000	15,550
Fish curing establishments	1					

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(b) Capital Invested—*concluded.*

Province and County or District	Establishments	Land, Buildings and Fixtures	Machinery and Tools	Materials and Products on hand, Fuel and Miscellaneous Supplies	Cash and Operating Accounts	Total Capital Invested
	no.	$	$	$	$	$
Queens County—						
Lobster canneries	2	125,231	93,103	60,020	24,803	303,157
Fish curing establishments	6					
Shelburne County—						
Lobster canneries	12	37,902	22,883	33,081	56,241	150,107
Fish curing establishments	14	310,857	12,110	80,300	46,214	449,481
Yarmouth County—						
Lobster canneries	11	35,950	7,400	26,729	30,651	100,730
Other fish canneries	1					
Fish curing establishments	11	64,071	11,381	108,490	83,063	267,005
Digby County—						
Lobster canneries	5					
Clam cannery	1	222,220	90,115	96,720	41,800	450,855
Other fish cannery	1					
Fish curing establishments	26	145,617	14,924	40,699	43,645	244,885
Annapolis County—						
Fish curing establishments	4	2,500	900	100	–	3,500
New Brunswick—Totals	**251**	**541,411**	**226,783**	**438,399**	**157,461**	**1,364,054**
Lobster canneries	177	224,106	90,925	71,555	53,640	440,226
Clam canneries	4	85,127	86,562	273,383	24,015	469,087
Sardine and other fish canneries	2					
Fish curing establishments	71	232,178	49,296	93,461	79,806	454,741
Charlotte County—						
Clam canneries	4	85,127	86,562	273,383	24,015	469,087
Sardine and other fish canneries	2					
Fish curing establishments	19	55,800	5,525	10,015	15,970	87,310
St. John County—						
Fish curing establishments	9	44,378	7,651	30,594	49,716	132,339
Westmorland County—						
Lobster canneries	20	33,148	10,602	22,060	25,000	90,810
Fish curing establishments	27	50,900	4,320	16,667	20	71,907
Kent County—						
Lobster canneries	27	63,247	36,638	21,686	2,563	124,134
Fish curing establishments	2					
Northumberland County—						
Lobster canneries	20	62,675	39,879	10,737	–	113,291
Fish curing establishments	2					
Gloucester County—						
Lobster canneries[1]	110	102,536	28,806	23,372	26,077	180,791
Fish curing establishments	12	43,600	6,800	29,885	14,100	94,385
Quebec—Totals	**110**	**276,921**	**95,452**	**175,965**	**127,494**	**675,742**
Lobster canneries	66	116,844	49,860	74,175	55,833	296,712
Salmon canneries	3	10,550	4,600	–	–	15,150
Other fish canneries	1					
Fish curing establishments	40	149,527	40,992	101,790	71,571	363,880
Bonaventure County—						
Lobster canneries	7	2,594	1,160	50	4,283	8,087
Fish curing establishments	9	23,700	4,521	20,794	46,000	95,015
Gaspé County—						
Lobster canneries	6	20,000	12,900	15,550	16,900	65,350
Fish curing establishments	25	70,652	26,971	52,396	9,571	159,590
Magdalen Islands—						
Lobster canneries	28	99,950	40,300	58,575	34,650	233,475
Other fish canneries	1					
Fish curing establishments	3	17,175	2,000	2,000	15,000	36,175
Saguenay County—						
Lobster canneries	25	4,300	–	–	–	4,300
Salmon canneries	3	550	100	–	–	650
Fish curing establishments	3	38,000	7,500	26,600	1,000	73,100
Manitoba—Totals	**2**	**5,000**	**8,840**	**12,320**	**–**	**26,160**
Fish curing establishments	2	5,000	8,840	12,320	–	26,160
British Columbia—Totals	**107**	**3,545,939**	**2,706,311**	**6,089,050**	**1,763,780**	**14,105,080**
Salmon canneries	64	2,570,540	1,679,572	4,783,733	1,064,318	10,098,163
Clam canneries	1					
Whale oil and fish oil factories	9	431,186	745,393	335,897	36,871	1,549,347
Fish curing establishments	33	544,213	281,346	969,420	662,591	2,457,570
District No. 1—						
Salmon canneries	11	376,072	238,357	656,401	113,263	1,384,093
Fish oil factories	2	30,660	150,376	88,721	370,504	640,261
Fish curing establishments	17					
District No. 2—						
Salmon canneries	41	1,711,454	1,145,835	3,030,945	838,674	6,726,908
Fish oil factories	2	455,303	800,233	1,032,016	290,427	2,577,979
Fish curing establishments	2					
District No. 3—						
Salmon canneries	12	483,014	295,380	1,096,387	112,381	1,987,162
Clam cannery	1					
Whale oil and fish oil factories	5	466,186	41,479	115,033	15,167	577,865
Fish curing establishments	14	83,250	34,651	69,547	23,364	210,812

Gloucester County includes two lobster canneries for Restigouche County.

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(c) Employees and Salaries and Wages

	Province and County or District	Establishments	Employees on Salaries: Officers, Superintendents and Managers		Employees on Salaries: Clerks, Stenographers, Salesmen, etc.		Employees on Salaries: Total of Employees and Salaries	
			Male	Female	Male	Female		
		no.	no.	no.	no.	no.	no.	$
1	**Canada—Totals**	**940**	**374**	**8**	**225**	**44**	**651**	**759,176**
2	Lobster canneries	578	161	5	36	7	209	114,700
3	Salmon canneries	67	85	–	77	3	165	278,771
4	Clam canneries	9	5	–	1	–	6	7,985
5	Sardine and other fish canneries	8	7	1	10	1	19	38,157
6	Whale oil and fish oil factories	11	22	–	22	6	50	80,779
7	Fish curing establishments	267	94	2	79	27	202	238,784
8	**Prince Edward Island—Totals**	**192**	**32**	–	–	–	**32**	**11,695**
9	Lobster canneries	183	29	–	–	–	29	9,917
10	Clam canneries	2	–	–	–	–	–	–
11	Other fish canneries	1						
12	Fish curing establishments	6	3	–	–	–	3	1,778
	Kings County—							
13	Lobster canneries	45	8	–	–	–	8	3,550
14	Clam canneries	1						
15	Fish curing establishments	3	2	–	–	–	2	1,658
	Queens County—							
16	Lobster canneries	52	16	–	–	–	16	3,309
17	Fish curing establishments	2						
	Prince County—							
18	Lobster canneries	86	6	–	–	–	6	3,178
19	Clam canneries	1						
20	Other fish canneries	1	–	–	–	–	–	–
21	Fish curing establishments	1						
22	**Nova Scotia—Totals**	**275**	**122**	**5**	**47**	**17**	**191**	**178,256**
23	Lobster canneries	152	72	3	19	3	97	63,814
24	Clam canneries	2						
25	Other fish canneries	4	4	–	3	1	8	13,300
26	Fish oil factories	2						
27	Fish curing establishments	115	46	2	25	13	86	101,136
	Richmond County—							
28	Lobster canneries	8	4	–	1	–	5	1,520
29	Fish curing establishments	5	1	–	–	1	2	1,325
	Cape Breton County—							
30	Lobster canneries	9	5	–	–	1	6	3,080
31	Fish oil factory	1						
32	Fish curing establishments	6	2	–	–	–	2	1,970
	Victoria County—							
33	Lobster canneries	13	6	–	1	–	7	1,400
34	Fish oil factory	1						
35	Fish curing establishments	12	5	–	2	–	7	5,900
	Inverness County.—							
36	Lobster canneries	24	16	–	9	–	25	11,504
37	Fish curing establishments	7	3	–	4	1	8	10,260
	Cumberland County—							
38	Lobster canneries	19	2	–	1	–	3	1,100
39	Fish curing establishments	9	1	–	–	–	1	500
	Pictou County—							
40	Lobster canneries	16	6	–	–	1	7	3,683
41	Fish curing establishments	1						
	Antigonish County—							
42	Lobster canneries	10	1	–	–	–	1	1,200
	Guysborough County—							
43	Lobster canneries	12	13	3	6	1	23	31,425
44	Other fish canneries	2						
45	Fish curing establishments	6	3	–	–	1	4	4,858
	Halifax County—							
46	Lobster canneries	9	5	–	–	–	5	2,250
47	Fish curing establishments	7	6	–	3	3	12	23,950

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(c) Employees and Salaries and Wages

Employees on Wages						Contract labour and piece workers				
16 years of age and over		Under 16 years		Total of Employees and Wages						
Male	Female	Male	Female			Male	Wages	Female	Wages	
no.	no.	no.	no.	no.	$	no.	$	no.	$	
8,067	**4,520**	**319**	**231**	**13,137**	**3,180,791**	**2,730**	**664,468**	**1,981**	**251,945**	**1**
3,717	3,762	255	213	7,947	774,807	111	3,878	14	385	2
1,726	240	11	9	1,986	1,061,182	2,367	622,904	1,804	240,320	3
38	91	5	4	138	17,827	8	1,265	10	2,493	4
285	207	4	5	501	148,562	125	25,412	110	6,400	5
185	1	–	–	186	143,578	–	–	–	–	6
2,116	219	44	–	2,379	1,034,745	119	11,009	43	2,347	7
977	**845**	**86**	**59**	**1,967**	**163,943**	–	–	**1**	**20**	**8**
946	831	86	59	1,922	156,061	–	–	1	20	9
10	13	–	–	23	653	–	–	–	–	10
										11
21	1	–	–	22	7,229	–	–	–	–	12
315	281	62	35	693	67,137	–	–	–	–	13
										14
17	–	–	–	17	6,494	–	–	–	–	15
221	168	7	9	405	29,818	–	–	1	20	16
										17
413	390	17	15	835	59,651	–	–	–	–	18
										19
11	6	–	–	17	843	–	–	–	–	20
										21
2,653	**1,505**	**137**	**93**	**4,388**	**859,091**	**30**	**3,871**	–	–	**22**
1,529	1,403	108	88	3,128	379,720	10	1,870	–	–	23
										24
93	31	4	5	133	65,482	–	–	–	–	25
										26
1,031	71	25	–	1,127	413,889	20	2,001	–	–	27
105	85	4	6	200	11,341	–	–	–	–	28
19	–	4	–	23	5,776	2	26	–	–	29
157	106	12	15	290	28,960	2	257	–	–	30
										31
13	1	–	–	14	3,377	–	–	–	–	32
75	105	9	13	202	14,049	–	–	–	–	33
										34
141	–	9	–	150	26,518	–	–	–	–	35
194	260	4	9	467	52,712	6	1,410	–	–	36
175	24	1	–	200	114,257	–	–	–	–	37
92	92	8	2	194	17,054	–	–	–	–	38
65	–	2	–	67	5,932	–	–	–	–	39
167	185	13	10	375	39,202	–	–	–	–	40
										41
114	118	–	–	232	24,296	–	–	–	–	42
234	104	12	5	355	108,531	–	–	–	–	43
										44
93	8	–	–	101	44,257	–	–	–	–	45
77	38	16	5	136	15,437	2	203	–	–	46
66	6	1	–	73	37,002	–	–	–	–	47

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(c) Employees and Salaries and Wages—*con.*

	Province and County or District	Establishments	Employees on Salaries: Officers, Superintendents and Managers		Clerks, Stenographers, Salesmen, etc.		Total of Employees and Salaries	
			Male	Female	Male	Female		
		no.	no.	no.	no.	no.	no.	$
	Nova Scotia—concluded.							
	Lunenburg County—							
1	Lobster canneries	2						
2	Clam canneries	1	4	–	2	1	7	4,400
3	Fish curing establishments	1						
	Queens County—							
4	Lobster canneries	2						
5	Fish curing establishments	6	–	–	–	–	–	–
	Shelburne County—							
6	Lobster canneries	12	4	–	1	1	6	6,310
7	Fish curing establishments	14	9	–	7	4	20	18,442
	Yarmouth County—							
8	Lobster canneries	11	10	–	3	–	13	8,542
9	Other fish canneries	1						
10	Fish curing establishments	11	7	2	5	1	15	16,018
	Digby County—							
11	Lobster canneries	5						
12	Clam cannery	1	3	–	–	–	3	4,700
13	Other fish canneries	1						
14	Fish curing establishments	26	6	–	2	1	9	13,913
	Annapolis County—							
15	Fish curing establishments	4	–	–	–	–	–	–
	New Brunswick—Totals	**254**	**60**	**2**	**27**	**7**	**96**	**69,861**
16	Lobster canneries	177	39	1	10	1	51	17,219
17	Clam canneries	4	6	1	8	–	15	29,242
18	Sardine and other fish canneries	2						
19	Fish curing establishments	71	15	–	9	6	30	23,400
	Charlotte County—							
20	Clam canneries	4	6	1	8	–	15	29,242
21	Sardine and other fish canneries	2						
22	Fish curing establishments	19	5	–	–	1	6	4,150
	St. John County—							
23	Fish curing establishments	9	1	–	4	2	7	6,500
	Westmorland County—							
24	Lobster canneries	20	7	1	3	–	11	5,373
25	Fish curing establishments	27	3	–	1	–	4	890
	Kent County—							
26	Lobster canneries	27	10	–	1	2	13	7,075
27	Fish curing establishments	2						
	Northumberland County—							
28	Lobster canneries	20	8	–	6	1	15	3,599
29	Fish curing establishments	2						
	Gloucester County—							
30	Lobster canneries[1]	110	17	–	2	–	19	6,882
31	Fish curing establishments	12	3	–	2	1	6	6,150
32	**Quebec—Totals**	**110**	**42**	**1**	**16**	**6**	**65**	**39,335**
33	Lobster canneries	66	21	1	7	3	32	23,750
34	Salmon canneries	3	–	–	–	–	–	–
35	Other fish canneries	1						
36	Fish curing establishments	40	21	–	9	3	33	15,585
	Bonaventure County—							
37	Lobster canneries	7	–	–	–	–	–	–
38	Fish curing establishments	9	8	–	3	2	13	6,089
	Gaspe County—							
39	Lobster canneries	6	5	–	1	–	6	3,700
40	Fish curing establishments	25	11	–	3	1	15	6,496

[1] Gloucester County includes two lobster canneries for Restigouche County.

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(c) Employees and Salaries and Wages—*con.*

Employees oa Wages						Coatract labour and piece workers				
16 years of age and over		Under 16 years		Total of Employees and Wages						
Male	Female	Male	Female			Male	Wages	Female	Wages	
no.	no.	no.	no.	no.	$	no.	$	no.	$	
										1
32	20	3	2	57	12,581	7	1,619	–	–	2
										3
										4
81	–	5	–	86	43,602	–	–	–	–	5
103	91	11	4	209	27,872	–	–	–	–	6
147	1	3	–	151	55,772	–	–	–	–	7
182	138	9	6	335	39,374	–	–	–	–	8
										9
97	21	2	–	120	32,291	–	–	–	–	10
										11
97	93	9	16	215	51,566	–	–	–	–	12
										13
117	9	–	–	126	45,270	11	356	–	–	14
10	–	–	–	10	2,002	–	–	–	–	15
1,299	**1,310**	**33**	**26**	**2,668**	**355,919**	**174**	**29,386**	**169**	**11,395**	
739	1,069	21	22	1,851	150,784	1	8	8	265	16
172	159	5	4	340	88,942	133	26,677	120	8,893	17
										18
388	82	7	–	477	116,193	40	2,701	41	2,147	19
172	159	5	4	340	88,942	133	26,677	120	8,893	20
										21
52	12	–	–	64	19,939	7	875	13	675	22
51	2	2	–	55	29,866	11	100	–	–	23
59	101	2	1	163	18,988	–	–	–	–	24
173	67	2	–	242	25,117	15	1,135	28	1,472	25
177	283	–	3	463	44,913	7	591	–	–	26
										27
181	194	14	15	404	39,210	–	–	–	–	28
										29
366	491	5	3	865	62,970	1	8	8	65	30
68	1	3	–	72	25,974	–	–	–	–	31
743	**550**	**52**	**44**	**1,389**	**140,773**	**107**	**2,477**	**5**	**100**	**32**
503	459	40	44	1,046	88,242	100	2,000	5	100	33
42	65	–	–	107	6,797	–	–	–	–	34
										35
198	26	12	–	236	45,734	7	477	–	–	36
12	30	–	4	46	2,660	–	–	–	–	37
29	1	–	–	30	7,731	2	103	–	–	38
67	48	7	15	137	7,775	–	–	–	–	39
122	5	12	–	139	24,963	5	374	–	–	40

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(c) Employees and Salaries and Wages—*concluded*

	Province and County or District	Establishments	Employees on Salaries: Officers, Superintendents and Managers		Clerks, Stenographers, Salesmen, etc.		Total of Employees and Salaries	
			Male	Female	Male	Female		
		no.	no.	no.	no.	no.	no.	$
	Quebec—concluded—							
	Magdalen Islands—							
1	Lobster canneries	28	16	1	6	3	26	20,050
2	Other fish canneries	1						
3	Fish curing establishments	3	1	–	3	–	4	2,500
	Saguenay County—							
4	Lobster canneries	25	–	–	–	–	–	–
5	Salmon canneries	3	–	–	–	–	–	–
6	Fish curing establishments	3	1	–	–	–	1	500
	Manitoba—Totals	**2**	–	–	–	–	–	–
7	Fish curing establishments	2	–	–	–	–	–	–
8	**British Columbia—Totals**	**107**	**118**	–	**135**	**14**	**267**	**460,035**
9	Salmon canneries	64	87	–	77	3	167	282,371
10	Clam canneries	1						
11	Whale oil and fish oil factories	9	21	–	22	6	49	78,859
12	Fish curing establishments	33	10	–	36	5	51	98,805
	District No. 1—							
13	Salmon canneries	11	18	–	5	1	24	43,710
14	Fish oil factories	2						
15	Fish curing establishments	17	8	–	13	2	23	46,527
	District No. 2—							
16	Salmon canneries	41	50	–	51	2	103	167,392
17	Fish oil factories	2						
18	Fish curing establishments	2	12	–	32	6	50	92,243
	District No. 3—							
19	Salmon canneries	12	19	–	21	–	40	71,269
20	Clam canneries	1						
21	Whale oil and fish oil factories	5	8	–	8	2	18	28,088
22	Fish curing establishments	11	3	–	5	1	9	10,806

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(c) Employees and Salaries and Wages—*concluded*

Employees on Wages						Contract labour and piece workers				
16 years of age and over		Under 16 years		Total of Employees and Wages						
Male	Female	Male	Female			Male	Wages	Female	Wages	
no.	no.	no.	no.	no.	$	no.	$	no.	$	
464	445	30	25	964	84,409	100	2,000	5	100	1
										2
20	11	–	–	31	5,440	–	–	–	–	3
–	1	3	–	4	35	–	–	–	–	4
2	–	–	–	2	160	–	–	–	–	5
27	9	–	–	36	7,600	–	–	–	–	6
5	–	–	–	5	2,148	–	–	–	–	
5	–	–	–	5	2,148	–	–	–	–	7
2,390	**310**	**11**	**9**	**2,720**	**1,658,827**	**2,419**	**628,731**	**1,806**	**240,520**	**8**
1,732	270	11	9	2,022	1,065,697	2,367	622,904	1,804	240,320	9
										10
182	1	–	–	183	141,237	–	–	–	–	11
476	39	–	–	515	451,893	52	5,830	2	200	12
136	26	–	–	162	85,844	258	62,080	226	27,006	13
										14
153	18	–	–	171	125,504	1	150	2	200	15
1,296	124	11	9	1,440	683,597	1,792	481,686	1,342	176,515	16
										17
291	2	–	–	293	355,420	–	–	–	–	18
300	120	–	–	420	296,256	317	79,138	236	36,799	19
										20
67	–	–	–	67	48,526	–	–	–	–	21
147	20	–	–	167	63,680	51	5,680	–	–	22

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(d) Number of Wage-earners by Months

	Province	Establishments	January		February		March		April		May	
			Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
		no.	no.	no.	no.	no.	no.	no.	no.	no.	no.	no.
1	**Canada—Totals**	**940**	**1,245**	**183**	**1,135**	**119**	**1,672**	**262**	**4,731**	**1,447**	**7,221**	**3,983**
2	Lobster canneries	578	87	11	83	5	320	141	2,174	1,275	3,766	3,602
3	Salmon canneries	67	152	50	150	16	497	38	1,320	91	1,617	134
4	Clam canneries	9	17	44	12	36	21	53	26	34	31	38
5	Sardine and other fish canneries	8	136	24	136	20	162	15	256	14	272	93
6	Whale oil and fish oil factories	11	13	–	23	–	44	–	148	–	145	–
7	Fish curing establishments	267	840	54	731	42	628	15	810	33	1,390	116
8	**Prince Edward Island—Totals**	**192**	–	–	–	–	**1**	–	**709**	**541**	**960**	**803**
9	Lobster canneries	183	–	–	–	–	1	–	705	541	945	803
10	Clam canneries	2	–	–	–	–	–	–	–	–	–	–
11	Other fish canneries	1	–	–	–	–	–	–	–	–	–	–
12	Fish curing establishments	6	–	–	–	–	–	–	4	–	15	–
13	**Nova Scotia—Totals**	**275**	**679**	**60**	**540**	**28**	**718**	**150**	**1,462**	**605**	**2,461**	**1,498**
14	Lobster canneries	152	83	9	79	3	311	139	926	587	1,635	1,443
15	Clam canneries	2										
16	Other fish canneries	4	115	24	116	20	123	7	136	14	98	34
17	Fish oil factories	2	481	27	345	5	284	4	400	4	731	21
18	Fish curing establishments	115										
19	**New Brunswick—Totals**	**254**	**111**	**19**	**101**	**11**	**135**	**36**	**769**	**186**	**1,125**	**960**
20	Lobster canneries	177	4	2	4	2	4	2	481	129	662	853
21	Clam canneries	4	31	16	25	8	53	33	146	34	165	32
22	Sardine and other fish canneries	2										
23	Fish curing establishments	71	79	1	72	1	78	1	142	23	298	75
24	**Quebec—Totals**	**110**	**2**	–	**7**	–	**13**	–	**76**	**18**	**657**	**582**
25	Lobster canneries	66	–	–	–	–	4	–	62	18	524	503
26	Salmon canneries	3	–	–	–	–	–	–	–	–	40	65
27	Other fish canneries	1										
28	Fish curing establishments	40	2	–	7	–	9	–	14	–	93	14
29	**Manitoba—Totals**	**2**	**3**	–	**2**	–	**2**	–	**2**	–	**5**	–
30	Fish curing establishments	2	3	–	2	–	2	–	2	–	5	–
31	**British Columbia—Totals**	**107**	**447**	**101**	**485**	**80**	**803**	**76**	**1,716**	**97**	**2,010**	**140**
32	Salmon canneries	64	159	78	157	44	504	66	1,320	91	1,617	134
33	Clam canneries	1										
34	Whale oil and fish oil factories	9	11	–	21	–	42	–	146	–	143	–
35	Fish curing establishments	33	277	26	307	36	257	10	250	6	250	6

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(d) Number of Wage-earners by Months

June		July		August		September		October		November		December		
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
no.	no.	no.	no.	no.	no.	no.	no.	o.	no.	no.	no.	no.	no.	
7,204	**3,698**	**4,945**	**1,099**	**3,868**	**690**	**3,363**	**585**	**2,607**	**513**	**1,785**	**235**	**1,441**	**176**	**1**
3,429	3,323	1,007	691	540	358	490	358	455	305	222	48	109	15	2
1,639	155	1,603	205	1,576	204	1,201	110	347	47	207	38	141	28	3
21	30	24	22	30	28	25	30	37	66	34	59	33	63	4
274	94	264	95	162	26	197	8	198	11	67	5	114	2	5
162	1	189	–	190	–	185	–	164	–	68	–	24	–	6
1,679	95	1,358	86	1,370	74	1,265	79	1,406	84	1,187	85	1,020	68	7
947	**809**	**57**	**7**	**120**	**83**	**115**	**95**	**102**	**73**	**11**	**–**	**3**	**–**	**8**
923	806	41	4	99	75	98	88	89	73	4	–	–	–	9
9	3	–	3	1	7	1	7	–	–	–	–	–	–	10
														11
15	–	16	–	20	1	16	–	13	–	7	–	3	–	12
2,321	**1,257**	**1,172**	**316**	**1,071**	**117**	**963**	**138**	**1,064**	**128**	**906**	**102**	**809**	**55**	**13**
1,311	1,187	457	245	252	78	229	68	235	62	199	46	104	13	14
														15
75	25	77	26	79	23	61	17	55	16	51	9	95	4	16
935	45	638	45	740	46	673	53	774	50	656	47	610	38	17
														18
1,096	**886**	**528**	**65**	**438**	**230**	**439**	**213**	**361**	**202**	**136**	**28**	**133**	**34**	**19**
656	835	102	31	122	198	124	198	96	170	8	2	5	2	20
171	31	171	23	112	24	160	14	172	31	42	25	44	31	21
														22
269	20	255	11	204	8	155	1	93	1	86	1	84	1	23
781	**585**	**639**	**501**	**200**	**21**	**150**	**17**	**101**	**2**	**41**	**–**	**20**	**–**	**24**
539	495	407	411	67	7	39	4	35	–	11	–	–	–	25
42	65	42	65	2	–	–	–	–	–	–	–	–	–	26
														27
200	25	190	25	131	14	111	13	66	2	30	–	20	–	28
4	**–**	**5**	**–**	**2**	**–**	**2**	**–**	**3**	**–**	**3**	**–**	**3**	**–**	**29**
4	–	5	–	2	–	2	–	3	–	3	–	3	–	30
2,055	**161**	**2,044**	**210**	**2,037**	**209**	**1,694**	**122**	**976**	**108**	**688**	**105**	**473**	**87**	**31**
1,637	155	1,601	205	1,574	204	1,201	110	355	77	215	68	149	58	32
														33
160	1	186	–	187	–	182	–	161	–	66	–	22	–	34
258	5	257	5	276	5	311	12	460	31	407	37	302	29	35

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(e) Time in Operation and Hours Worked

Province	Total number of Establishments	Establishments operating during the year					Establishments in which hours per day normally worked were				
		Less than 60 days	From 60 to 119 days	From 120 to 179 days	From 180 to 239 days	240 days and over	Less than 8 hours	8 hours	9 hours	10 hours	Over 10 hours
	no.	no.	no.	no.	no.	no.	no.	no.	no.	no.	no.
Canada—Totals	**910**	**383**	**304**	**117**	**66**	**70**	**170**	**156**	**163**	**445**	**6**
Lobster canneries	578	324	207	18	18	11	143	83	80	267	5
Salmon canneries	67	3	8	39	11	3	2	4	26	35	–
Clam canneries	9	4	1	2	1	1	–	3	2	4	–
Sardine and other fish canneries	8	2	1	2	–	3	–	–	2	6	–
Whale oil and fish oil factories	11	–	3	2	1	5	–	5	1	5	–
Fish curing establishments	267	150	84	54	32	47	25	61	52	128	1
Prince Edward Island—Totals	**192**	**50**	**137**	**1**	**3**	**1**	**50**	**5**	**20**	**116**	**1**
Lobster canneries	183	47	133	1	1	1	49	4	19	110	1
Clam canneries	2	3	–	–	–	–	–	–	–	3	–
Other fish canneries	1										
Fish curing establishments	6	–	4	–	2	–	1	1	1	3	–
Nova Scotia—Totals	**275**	**113**	**45**	**43**	**34**	**40**	**27**	**57**	**73**	**118**	**–**
Lobster canneries	152	100	20	7	17	8	17	26	44	65	–
Clam canneries	2										
Other fish canneries	4	2	1	1	–	2	–	2	1	3	–
Fish oil factories	2										
Fish curing establishments	115	11	24	35	17	30	10	29	28	50	–

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(f) Classification of Wage-earners according to Daily Wages

	Province	Establishments	Under $1 per day				
			16 years of age and over		Under 16 years		Total
			Male	Female	Male	Female	
		no.	no.	no.	no.	no.	no.
1	**Canada—Totals**	**910**	**120**	**925**	**88**	**127**	**1,260**
2	Lobster canneries	578	117	867	84	123	1,191
3	Salmon canneries	67	–	–	–	–	–
4	Clam canneries	9	1	13	–	4	18
5	Sardine and other fish canneries	8	–	–	1	–	1
6	Whale oil and fish oil factories	11	–	–	–	–	–
7	Fish curing establishments	267	2	45	3	–	50
8	**Prince Edward Island—Totals**	**192**	**75**	**358**	**25**	**39**	**497**
9	Lobster canneries	183	75	351	25	39	490
10	Clam canneries	2	–	7	–	–	7
11	Other fish canneries	1					
12	Fish curing estaolishments	6	–	–	–	–	–
13	**Nova Scotia—Totals**	**275**	**39**	**197**	**39**	**39**	**314**
14	Lobster canneries	152	36	172	38	39	285
15	Clam canneries	2					
16	Other fish canneries	4	1	6	1	–	8
17	Fish oil factories	2					
18	Fish curing establishments	115	2	19	–	–	21
19	**New Brunswick—Totals**	**251**	**6**	**184**	**7**	**11**	**211**
20	Lobster canneries	177	6	178	4	10	198
21	Clam canneries	4	–	–	–	4	4
22	Sardine and other fish canneries	2					
23	Fish curing establishments	71	–	6	3	–	9
24	**Quebec—Totals**	**110**	–	**186**	**17**	**35**	**238**
25	Lobster canneries	66	–	166	17	35	218
26	Salmon canneries	3	–	–	–	–	–
27	Other fish canneries	1					
28	Fish curing establishments	40	–	20	–	–	20
29	**Manitoba—Totals**	**2**	–	–	–	–	–
30	Fish curing establishments	2	–	–	–	–	–
31	**British Columbia—Totals**	**107**	–	–	–	–	–
32	Salmon canneries	64	–	–	–	–	–
33	Clam canneries	1					
34	Whale oil and fish oil factories	9	–	–	–	–	–
35	Fish curing establishments	33	–	–	–	–	–

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(e) Time in Operation and Hours Worked

Province	Total number of Establishments	Establishments operating during the year					Establishments in which hours per day normally worked were				
		Less than 60 days	From 60 to 119 days	From 120 to 179 days	From 180 to 239 days	240 days and over	Less than 8 hours	8 hours	9 hours	10 hours	Over 10 hours
	no.	no.	no.	no.	no.	no.	no.	no.	no.	no.	
New Brunswick—Totals	**254**	**148**	**69**	**13**	**10**	**14**	**66**	**61**	**24**	**101**	**2**
Lobster canneries	177	140	33	3	–	1	56	50	10	59	2
Clam canneries	4	–	–	3	1	2	–	–	2	4	–
Sardine and other fish canneries	2										
Fish curing establishments	71	8	36	7	9	11	10	11	12	38	–
Quebec—Totals	**110**	**56**	**36**	**14**	**3**	**1**	**25**	**6**	**14**	**62**	**3**
Lobster canneries	66	37	21	7	–	1	21	3	7	33	2
Salmon canneries	3	2	2	–	–	–	2	–	1	1	–
Other fish canneries	1										
Fish curing establishments	40	17	13	7	3	–	2	3	6	28	1
Manitoba—Totals	**2**	**1**	**1**	–	–	**1**	–	**1**	–	**1**	–
Fish curing establishments	2	–	1	–	–	1	–	1	–	1	–
British Columbia—Totals	**197**	**16**	**16**	**46**	**16**	**13**	**2**	**26**	**32**	**47**	–
Salmon canneries	64	2	7	39	14	3	–	5	26	34	–
Clam canneries	1										
Whale oil and fish oil factories	9	–	3	2	–	4	–	3	1	5	–
Fish curing establishments	33	14	6	5	2	6	2	18	5	8	–

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(f) Classification of Wage-earners according to Daily Wages

$1 but under $2 per day					$2 but under $3 per day					
16 years of age and over		Under 16 years		Total	16 years of age and over		Under 16 years		Total	
Male	Female	Male	Female		Male	Female	Male	Female		
no.	no.	no.	no.	no.	no.	no.	no.	no.	no.	
1,504	**2,843**	**199**	**96**	**4,642**	**3,013**	**627**	**30**	**8**	**3,678**	**1**
1,296	2,634	158	90	4,178	1,706	251	13	–	1,970	2
2	28	1	1	32	233	157	10	8	408	3
4	70	5	–	79	9	6	–	–	15	4
6	16	3	5	30	79	151	–	–	230	5
4	1	–	–	5	26	–	–	–	26	6
192	94	32	–	318	960	62	7	–	1,029	7
558	**469**	**61**	**20**	**1,108**	**307**	**18**	–	–	**325**	**8**
554	465	61	20	1,100	290	15	–	–	305	9
1	3	–	–	4	9	3	–	–	12	10
										11
3	1	–	–	4	8	–	–	–	8	12
551	**1,112**	**91**	**54**	**1,808**	**1,379**	**186**	**7**	–	**1,572**	**13**
408	1,049	64	49	1,570	777	172	6	–	955	14
										15
7	25	3	5	40	70	–	–	–	70	16
										17
136	38	24	–	198	532	14	1	–	547	18
123	**934**	**17**	**12**	**1,086**	**701**	**152**	**9**	–	**862**	**19**
106	856	10	12	984	480	35	7	–	522	20
2	30	5	–	37	9	89	–	–	98	21
–	–	–	–	–	–	–	–	–	–	22
15	48	2	–	65	212	28	2	–	242	23
267	**269**	**29**	**9**	**571**	**292**	**95**	**4**	–	**391**	**24**
228	264	23	9	524	159	29	–	–	188	25
2	–	–	–	2	–	65	–	–	65	26
–	–	–	–	–	–	–	–	–	–	27
37	5	6	–	48	133	1	4	–	138	28
–	–	–	–	–	3	–	–	–	3	**29**
–	–	–	–	–	3	–	–	–	3	30
5	**59**	**1**	**1**	**66**	**331**	**176**	**10**	**8**	**525**	**31**
–	56	1	1	58	233	157	10	8	408	32
										33
4	1	–	–	5	25	–	–	–	25	34
1	2	–	–	3	73	19	–	–	92	35

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing

(f) Classification of Wage-earners According to Daily Wages.—*concluded*

	Province	Establishments	$3 but under $4 per day				
			16 years of age and over		Under 16 years		Total
			Male	Female	Male	Female	
		no.	no.	no.	no.	no.	no.
1	**Canada—Totals**	**910**	**2,011**	**123**	**2**	**-**	**2,136**
2	Lobster canneries	578	517	10	-	-	527
3	Salmon canneries	67	579	54	-	-	633
4	Clam canneries	9	20	2	-	-	22
5	Sardine and other fish canneries	8	187	40	-	-	227
6	Whale oil and fish oil factories	11	91	-	-	-	91
7	Fish curing establishments	267	617	17	2	-	636
8	**Prince Edward Island—Totals**	**192**	**37**	-	-	-	**37**
9	Lobster canneries	183	27	-	-	-	27
10	Clam canneries	2	-	-	-	-	-
11	Other fish canneries	1					
12	Fish curing establishments	6	10	-	-	-	10
13	**Nova Scotia—Totals**	**275**	**607**	**10**	-	-	**617**
14	Lobster canneries	152	273	10	-	-	283
15	Clam canneries	2					
16	Other fish canneries	4	14	-	-	-	14
17	Fish oil factories	2					
18	Fish curing establishments	115	320	-	-	-	320
19	**New Brunswick—Totals**	**251**	**411**	**40**	-	-	**451**
20	Lobster canneries	177	123	-	-	-	123
21	Clam canneries	4	146	40	-	-	186
22	Sardine and other fish canneries	2					
23	Fish curing establishments	71	142	-	-	-	142
24	**Quebec—Totals**	**110**	**162**	-	**2**	-	**164**
25	Lobster canneries	66	94	-	-	-	94
26	Salmon canneries	3	40	-	-	-	40
27	Other fish canneries	1					
28	Fish curing establishments	40	28	-	2	-	30
29	**Manitoba—Totals**	**2**	**2**	-	-	-	**2**
30	Fish curing establishments	2	2	-	-	-	2
31	**British Columbia—Totals**	**107**	**792**	**73**	-	-	**865**
32	Salmon canneries	64	586	56	-	-	642
33	Clam canneries	1					
34	Whale oil and fish oil factories	9	89	-	-	-	89
35	Fish curing establishments	33	117	17	-	-	134

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(f) Classification of Wage-earners According to Daily Wages—*concluded*

$4 but under $5 per day					$5 and over per day					
16 years of age and over		Under 16 years		Total	16 years of age and over		Under 16 years		Total	
Male	Female	Male	Female		Male	Female	Male	Female		
no.	no.	no.	no.	no.	no.	no.	no.	no.	no.	
797	2	–	–	799	622	–	–	–	622	1
67	–	–	–	67	14	–	–	–	14	2
552	1	–	–	553	360	–	–	–	360	3
3	–	–	–	3	1	–	–	–	1	4
11	–	–	–	11	2	–	–	–	2	5
26	–	–	–	26	38	–	–	–	38	6
138	1	–	–	139	207	–	–	–	207	7
–	–	–	–	–	–	–	–	–	–	8
–	–	–	–	–	–	–	–	–	–	9
–	–	–	–	–	–	–	–	–	–	10
										11
–	–	–	–	–	–	–	–	–	–	12
46	–	–	–	46	31	–	–	–	31	13
25	–	–	–	25	10	–	–	–	10	14
										15
1	–	–	–	1	–	–	–	–	–	16
										17
20	–	–	–	20	21	–	–	–	21	18
56	–	–	–	56	2	–	–	–	2	19
24	–	–	–	24	–	–	–	–	–	20
13	–	–	–	13	2	–	–	–	2	21
										22
19	–	–	–	19	–	–	–	–	–	23
18	–	–	–	18	4	–	–	–	4	24
18	–	–	–	18	4	–	–	–	4	25
–	–	–	–	–	–	–	–	–	–	26
										27
–	–	–	–	–	–	–	–	–	–	28
–	–	–	–	–	–	–	–	–	–	29
–	–	–	–	–	–	–	–	–	–	30
677	2	–	–	679	585	–	–	–	585	31
552	1	–	–	553	361	–	–	–	361	32
										33
26	–	–	–	26	38	–	–	–	38	34
99	1	–	–	100	186	–	–	–	186	35

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(g) Quantity and Value of Fuel Used

	Province	Establishments	Bituminous Coal		Anthracite Coal		Lignite Coal	
			Quantity	Value	Quantity	Value	Quantity	Value
		no.	tons	$	tons	$	tons	$
1	**Canada—Totals**	**940**	**30,016**	**334,581**	**683**	**9,961**	**28**	**321**
2	Lobster canneries	578	4,031	44,728	177	2,587	25	279
3	Salmon canneries	67	6,920	85,933	345	4,228	–	–
4	Clam canneries	9	269	2,814	–	–	3	42
5	Sardine and other fish canneries	8	3,224	28,912	–	–	–	–
6	Whale oil and fish oil factories	11	10,100	127,143	–	–	–	–
7	Fish curing establishments	267	5,472	45,051	161	3,146	–	–
8	**Prince Edward Island—Totals**	**192**	**1,000**	**12,222**	**32**	**476**	–	–
9	Lobster canneries	183	997	12,183	31	458	–	–
10	Clam canneries	2	3	39	–	–	–	–
11	Other fish canneries	1						
12	Fish curing establishments	6	–	–	1	18	–	–
13	**Nova Scotia—Totals**	**275**	**8,805**	**73,471**	**297**	**5,098**	**27**	**307**
14	Lobster canneries	152	2,093	20,888	146	2,127	24	265
15	Clam canneries	2						
16	Other fish canneries	4	1,613	12,178	–	–	3	42
17	Fish oil factories	2						
18	Fish curing establishments	115	5,099	40,405	151	2,971	–	–
19	**New Brunswick—Totals**	**254**	**2,096**	**21,917**	**8**	**147**	**1**	**14**
20	Lobster canneries	177	199	2,083	–	2	1	14
21	Clam canneries	4	1,817	18,609	–	–	–	–
22	Sardine and other fish canneries	2						
23	Fish curing establishments	71	80	1,225	8	145	–	–
24	**Quebec—Totals**	**110**	**845**	**10,923**	**1**	**12**	–	–
25	Lobster canneries	66	742	9,574	–	–	–	–
26	Salmon canneries	3	60	900	–	–	–	–
27	Other fish canneries	1						
28	Fish curing establishments	40	43	449	1	12	–	–
29	**Manitoba—Totals**	**2**	–	–	–	–	–	–
30	Fish curing establishments	2	–	–	–	–	–	–
31	**British Columbia—Totals**	**107**	**17,270**	**216,048**	**345**	**4,228**	–	–
32	Salmon canneries	64	6,920	85,933	345	4,228	–	–
33	Clam canneries	1						
34	Whale oil and fish oil factories	9	10,072	126,938	–	–	–	–
35	Fish curing establishments	33	278	3,177	–	–	–	–

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(g) Quantity and Value of Fuel Used

Coke		Gasoline		Fuel oil		Wood		Gas	Other Fuel	Total Value	
Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Value	Value		
tons	$	gal.	$	gal.	$	cords	$	$	$	$	
3	**30**	**255,674**	**106,661**	**92,798**	**25,348**	**12,341**	**73,561**	–	**31,051**	**581,520**	**1**
1	12	76,306	35,216	1,191	764	6,622	37,799	–	–	121,385	2
2	18	164,212	63,996	55,746	18,510	3,092	16,658	–	30,269	219,612	3
–	–	360	188	53	21	180	685	–	–	3,750	4
–	–	285	132	545	264	30	173	–	–	29,481	5
–	–	350	138	–	–	428	2,292	–	–	129,573	6
–	–	14,161	6,994	35,263	5,789	1,989	15,957	–	782	77,719	7
1	**12**	**22,113**	**10,484**	**2,350**	**770**	**2,232**	**10,661**	–	–	**34,628**	8
1	12	21,888	10,379	350	270	2,214	10,558	–	–	33,860	9
–	–	55	27	–	–	10	50	–	–	116	10
											11
–	–	170	78	2,000	500	8	56	–	–	652	12
–	–	**33,519**	**15,887**	**33,128**	**5,297**	**2,268**	**14,781**	–	**596**	**115,437**	**13**
–	–	25,239	11,751	438	316	1,364	7,952	–	–	43,299	14
											15
–	–	190	85	45	14	45	213	–	–	12,532	16
											17
–	–	8,090	4,051	32,645	4,967	859	6,616	–	596	59,606	18
–	–	**18,057**	**8,546**	**1,201**	**594**	**3,277**	**21,901**	–	**74**	**53,193**	**19**
–	–	12,294	5,729	83	71	2,443	15,231	–	–	23,130	20
–	–	300	158	553	271	55	295	–	–	19,333	21
											22
–	–	5,463	2,659	568	252	779	6,375	–	74	10,730	23
–	–	**17,455**	**7,628**	**370**	**177**	**830**	**5,928**	–	–	**24,678**	**24**
–	–	16,885	7,357	320	107	601	4,058	–	–	21,096	25
–	–	100	50	–	–	–	–	–	–	950	26
											27
–	–	470	231	50	70	219	1,870	–	–	2,632	28
–	–	–	–	–	–	**27**	**410**	–	–	**410**	**29**
–	–	–	–	–	–	27	410	–	–	410	30
2	**18**	**164,530**	**64,109**	**55,716**	**18,510**	**3,717**	**19,880**	–	**30,381**	**353,174**	**31**
2	18	164,212	63,996	55,746	18,510	3,192	16,958	–	30,269	219,912	32
											33
–	–	270	94	–	–	425	2,283	–	–	129,315	34
–	–	48	19	–	–	100	639	–	112	3,947	35

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(h) Power Equipment

	Province	Establishments	Steam						Gasoline and Oil Engines		
			Boilers[1] (fired by hand)			Engines					
		No.	No.	B.H.P. according to mfrs. rating	B.H.P. used	No.	H.P. according to mfrs. rating	H.P. used	No.	H.P. according to mfrs. rating	H.P. used
1	**Canada—Totals**	**940**	**338**	**12,353**	**10,939**	**168**	**2,799**	**2,670**	**580**	**3,211**	**3,137**
2	Lobster canneries	578	202	3,946	3,760	46	233	231	383	1,456	1,436
3	Salmon canneries	67	72	4,893	4,169	85	1,179	1,057	82	776	730
4	Clam canneries	9	7	144	135	2	35	35	7	37	35
5	Sardine and other fish canneries	8	13	943	883	13	412	407	7	24	22
6	Whale oil and fish oil factories	11	18	969	644	16	342	342	2	30	30
7	Fish curing establishments	267	16	1,458	1,348	6	598	598	99	888	884
8	**Prince Edward Island—Totals**	**192**	**82**	**1,366**	**1,366**	**9**	**63**	**63**	**172**	**608**	**602**
9	Lobster canneries	183	81	1,346	1,346	9	63	63	167	575	569
10	Clam canneries	2	1	20	20	–	–	–	2	2	2
11	Other fish canneries	1									[illegible]
12	Fish curing establishments	6	–	–	–	–	–	–	3	31	31
13	**Nova Scotia—Totals**	**275**	**100**	**3,191**	**2,985**	**34**	**919**	**917**	**154**	**998**	**984**
14	Lobster canneries	152	82	1,875	1,790	24	113	111	107	473	461
15	Clam canneries	2									
16	Other fish canneries	4	6	343	325	4	208	208	5	13	11
17	Fish oil factories	2									
18	Fish curing establishments	115	12	976	870	6	598	598	42	512	512
19	**New Brunswick—Totals**	**254**	**31**	**1,038**	**944**	**21**	**283**	**278**	**126**	**640**	**635**
20	Lobster canneries	177	19	340	297	10	44	44	72	288	286
21	Clam canneries	4	11	688	637	11	239	234	5	42	40
22	Sardine and other fish canneries	2									
23	Fish curing establishments	71	1	10	10	–	–	–	49	310	309
24	**Quebec—Totals**	**110**	**22**	**415**	**353**	**3**	**13**	**13**	**44**	**164**	**161**
25	Lobster canneries	66	20	385	327	3	13	13	37	120	120
26	Salmon canneries	3	1	20	20	–	–	–	2	4	4
27	Other fish canneries	1									
28	Fish curing establishments	40	1	10	6	–	–	–	5	40	37
29	**Manitoba—Totals**	**2**	–	–	–	–	–	–	–	–	–
30	Fish curing establishments	2	–	–	–	–	–	–	–	–	–
31	**British Columbia—Totals**	**107**	**93**	**6,340**	**5,291**	**101**	**1,521**	**1,399**	**84**	**801**	**755**
32	Salmon canneries	64	73	4,909	4,185	85	1,179	1,057	82	776	730
33	Clam canneries	1									
34	Whale oil and fish oil factories	9	16	929	604	16	342	342	1	20	20
35	Fish curing establishments	33	4	502	502	–	–	–	1	5	5

[1]The operators were asked to state whether the boilers were fired by hand or fired mechanically. The replies show that all boilers in fish canning and curing establishments were fired by hand.

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(h) Power Equipment

Electric				Water			Other		Total Motive Power		
Generators		Motors		Water Wheels and Turbines							
No.	capacity K.V.A.	No.	H.P. according to mfrs. rating	No.	H.P. according to mfrs. rating	H.P. used	Units No.	H.P. according to mfrs. rating	Units No.	H.P. according to mfrs. rating	
18	**647**	58	**882**	**51**	**950**	**858**	**15**	**211**	**872**	**8,053**	**1**
1	9	–	–	–	–	–	–	–	429	1,689	2
13	304	10	119	51	950	858	11	205	239	3,229	3
–	–	1	7	–	–	–	–	–	10	79	4
–	–	9	18	–	–	–	–	–	29	454	5
–	–	4	42	–	–	–	–	–	22	414	6
4	334	34	696	–	–	–	4	6	143	2,188	7
–	–	–	–	–	–	–	–	–	**181**	**671**	**8**
–	–	–	–	–	–	–	–	–	176	638	9
–	–	–	–	–	–	–	–	–	2	2	10
											11
–	–	–	–	–	–	–	–	–	3	31	12
4	**334**	**20**	**134**	–	–	–	**4**	**6**	**212**	**2,057**	**13**
–	–	–	–	–	–	–	–	–	131	586	14
											15
–	–	9	18	–	–	–	–	–	18	239	16
											17
4	334	11	116	–	–	–	4	6	63	1,232	18
–	–	–	–	–	–	–	–	–	**147**	**923**	**19**
–	–	–	–	–	–	–	–	–	82	332	20
–	–	–	–	–	–	–	–	–	16	281	21
											22
–	–	–	–	–	–	–	–	–	49	310	23
1	**9**	–	–	–	–	–	–	–	**47**	**177**	**24**
1	9	–	–	–	–	–	–	–	40	133	25
–	–	–	–	–	–	–	–	–	2	4	26
											27
–	–	–	–	–	–	–	–	–	5	40	28
–	–	–	–	–	–	–	–	–	–	–	**29**
–	–	–	–	–	–	–	–	–	–	–	30
13	**304**	**38**	**748**	**51**	**950**	**858**	**11**	**205**	**285**	**4,225**	**31**
13	304	11	126	51	950	858	11	205	240	3,236	32
											33
–	–	4	42	–	–	–	–	–	21	404	34
–	–	23	580	–	–	–	–	–	24	585	35

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(i) Character of Organization

Province	Total Establishments	Establishments operated by			
		Individuals	Partnerships	Joint Stock Companies	Co-operative Associations
	no.	no.	no.	no.	no.
Canada—Totals	**940**	**481**	**204**	**248**	**7**
Lobster canneries	578	338	137	96	7
Salmon canneries	67	3	6	58	–
Clam canneries	9	3	3	3	–
Sardine and other fish canneries	8	2	2	4	–
Whale oil and fish oil factories	11	–	2	9	–
Fish curing establishments	267	135	54	78	–
Prince Edward Island—Totals	**192**	**118**	**52**	**16**	**6**
Lobster canneries	183	114	50	13	6
Clam canneries	2	2	1	–	–
Other fish canneries	1				
Fish curing establishments	6	2	1	3	–
Nova Scotia—Totals	**275**	**106**	**86**	**82**	**1**
Lobster canneries	152	51	49	51	1
Clam canneries	2				
Other fish canneries	4	2	2	2	–
Fish oil factories	2				
Fish curing establishments	115	53	35	29	–
New Brunswick—Totals	**254**	**181**	**31**	**42**	–
Lobster canneries	177	133	18	26	–
Clam canneries	4	1	2	3	–
Sardine and other fish canneries	2				
Fish curing establishments	71	47	11	13	–
Quebec—Totals	**110**	**58**	**23**	**29**	–
Lobster canneries	66	40	20	6	–
Salmon canneries	3	3	–	1	–
Other fish canneries	1				
Fish curing establishments	40	15	3	22	–
Manitoba—Totals	–	–	–	–	–
Fish curing establishments	2	–	–	2	–
British Columbia—Totals	**107**	**18**	**12**	**77**	–
Salmon canneries	64	–	6	59	–
Clam canneries	1				
Whale oil and fish oil factories	9	–	1	8	–
Fish curing establishments	33	18	5	10	–

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(j) Classification of Establishments according to Value of Product

Province	Total Establishments	Establishments having a production valued at				
		Under $5,000	$5,000 to under $10,000	$10,000 to under $20,000	$20,000 to under $50,000	$50,000 and over
	no.	no.	no.	no.	no.	no.
Canada—Totals	**940**	**363**	**164**	**176**	**126**	**111**
Lobster canneries	578	255	107	112	87	17
Salmon canneries	67	3	–	–	2	62
Clam canneries	9	3	1	2	3	–
Sardine and other fish canneries	8	3	–	1	2	2
Whale oil and fish oil factories	11	2	1	4	1	3
Fish curing establishments	267	97	55	57	31	27
Prince Edward Island—Totals	**192**	**95**	**39**	**47**	**11**	–
Lobster canneries	183	88	38	46	11	–
Clam canneries	2	3	–	–	–	–
Other fish canneries	1					
Fish curing establishments	6	4	1	1	–	–
Nova Scotia—Totals	**275**	**55**	**56**	**71**	**61**	**32**
Lobster canneries	152	14	33	42	48	15
Clam canneries	2					
Other fish canneries	4	3	1	1	–	1
Fish oil factories	2					
Fish curing establishments	115	38	22	28	13	16
New Brunswick—Totals	**254**	**146**	**52**	**29**	**22**	**5**
Lobster canneries	177	118	33	16	10	–
Clam canneries	4	–	–	2	3	1
Sardine and other fish canneries	2					
Fish curing establishments	71	28	19	11	9	4
Quebec—Totals	**110**	**60**	**12**	**14**	**22**	**2**
Lobster canneries	66	35	3	8	18	2
Salmon canneries	3	3	–	–	1	–
Other fish canneries	1					
Fish curing establishments	40	22	9	6	3	–
Manitoba—Totals	**2**	**1**	–	**1**	–	–
Fish curing establishments	2	1	–	1	–	–
British Columbia—Totals	**107**	**6**	**5**	**14**	**10**	**72**
Salmon canneries	64	–	–	–	3	62
Clam canneries	1					
Whale oil and fish oil factories	9	1	1	3	1	3
Fish curing establishments	33	5	4	11	6	7

II. Agencies of Production, 1920—Part 2. In Fish Canning and Curing
(k) Classification of Establishments according to Number of Employees

Province	Total Establishments	Establishments		
		Employing less than five persons	Employing five persons and over	Having no employees
	no.	no.	no.	no.
Canada—Totals	**940**	**222**	**655**	**63**
Lobster canneries	578	124	408	46
Salmon canneries	67	3	64	–
Clam canneries	9	1	8	–
Sardine and other fish canneries	8	1	7	–
Whale oil and fish oil factories	11	3	7	1
Fish curing establishments	267	90	161	16
Prince Edward Island—Totals	**192**	**59**	**132**	**1**
Lobster canneries	183	54	128	1
Clam canneries	2	1	2	–
Other fish canneries	1			
Fish curing establishments	6	4	2	–
Nova Scotia—Totals	**275**	**51**	**217**	**7**
Lobster canneries	152	9	143	–
Clam canneries	2			
Other fish canneries	4	1	5	–
Fish oil factories	2			
Fish curing establishments	115	41	69	7
New Brunswick—Totals	**251**	**77**	**153**	**24**
Lobster canneries	177	58	101	18
Clam canneries	4	–	6	–
Sardine and other fish canneries	2			
Fish curing establishments	71	19	46	6
Quebec—Totals	**110**	**24**	**59**	**27**
Lobster canneries	66	3	36	27
Salmon canneries	3	3	1	–
Other fish canneries	1			
Fish curing establishments	40	18	22	–
Manitoba—Totals	**2**	**2**	–	–
Fish curing establishments	2	2	–	–
British Columbia—Totals	**107**	**9**	**94**	**4**
Salmon canneries	64	–	65	–
Clam canneries	1			
Whale oil and fish oil factories	9	1	7	1
Fish curing establishments	33	8	22	3

III. SPECIAL TABLES OF IMPORTS AND EXPORTS, BOUNTIES, Etc.

III. (1) Statements showing the Salmon-pack of the Province of British Columbia, by Districts and Species, from 1910 to 1920, inclusive. (From reports of B.C. Salmon Canners' Association).

FRASER RIVER

—	1920	1919	1918	1917	1916	1915	1914	1913	1912	1911	1910
Sockeyes	44,598	29,628	16,849	123,614	32,146	91,130	198,183	719,796	123,879	58,487	150,432
Springs, red	19,691	14,519	15,192	10,197	17,673	23,228	11,209	3,573	15,856	7,028	1,018
Springs, white and pink	4,392	4,206	24,853	18,916	11,430	5,392	15,300	49	9,826	6,751	8,925
Chums	23,884	15,718	86,215	59,973	30,924	18,919	74,826	22,220	12,997	47,237	52,460
Pinks	12,839	39,363	18,388	134,442	840	138,305	6,272	20,773	574	142,101	128
Cohoes	22,934	39,253	40,111	25,895	31,330	43,514	43,504	16,018	36,190	39,740	35,031
Bluebacks and Steelheads	4,522	15,941	4,395	4,951	3,129	31	–	–	–	–	–
Totals	**132,860**	**158,628**	**206,003**	**377,988**	**127,472**	**320,519**	**349,294**	**782,429**	**199,322**	**301,344**	**247,994**

SKEENA RIVER

Sockeyes	90,869	184,945	123,322	65,760	60,923	116,553	130,166	52,927	92,498	131,066	187,246
Springs	42,724	25,941	22,841	16,285	20,933	15,273	11,740	26,436	23,833	17,942	9,785
Chums	3,834	31,457	22,573	21,516	17,121	5,769	8,329	–	504	70	–
Pinks	177,679	117,303	161,727	148,319	73,029	107,578	71,021	66,045	97,588	81,956	13,473
Cohoes	18,068	36,559	38,759	38,456	47,409	32,190	16,378	18,647	39,835	23,376	11,531
Steelheads	1,218	2,672	4,994	1,883	3,743	1,798	–	–	–	–	–
Totals	**334,392**	**398,877**	**374,216**	**292,219**	**223,158**	**279,161**	**237,634**	**164,055**	**254,258**	**254,410**	**222,035**

RIVERS INLET

Sockeyes	121,254	56,258	53,401	61,195	44,936	130,350	89,890	61,745	112,884	88,763	126,921
Springs	1,793	1,442	1,409	817	1,422	1,022	566	594	1,149	317	383
Chums	1,226	7,089	6,729	16,101	20,144	5,387	5,023	–	3,845	288	–
Pinks	25,647	6,538	29,542	8,065	3,567	2,964	5,784	2,097	8,809	5,411	19
Cohoes	2,908	9,038	12,074	9,124	15,314	7,115	7,789	3,660	11,010	6,287	2,075
Steelheads	–	2	–	–	–	–	–	–	–	–	–
Totals	**152,828**	**80,367**	**103,155**	**95,302**	**85,383**	**116,838**	**109,052**	**68,096**	**137,697**	**101,066**	**129,398**

NAAS RIVER

Sockeyes	16,740	28,259	21,816	22,188	31,411	39,349	31,327	23,574	36,037	37,327	30,810
Springs	4,857	3,574	4,152	4,496	3,845	3,701	3,385	3,151	6,936	3,759	1,239
Chums	12,145	24,041	40,368	24,938	11,200	11,076	25,569	2,987	3,245	5,189	351
Pinks	43,151	29,840	59,206	44,568	59,593	34,879	25,333	20,539	12,476	11,467	895
Cohoes	3,700	10,900	17,061	22,180	19,139	15,171	9,276	3,172	12,468	7,942	6,285
Steelheads	560	780	1,305	1,125	1,498	113	–	–	–	–	140
Totals	**81,153**	**97,512**	**143,908**	**119,495**	**126,686**	**104,289**	**94,890**	**53,423**	**71,162**	**65,684**	**39,720**

VANCOUVER ISLAND

Sockeyes	10,788	15,678	9,091	34,189	9,223	–	–	–	–	–	–
Springs, red	25,680	28,476	25,460	15,714	4,725	–	–	–	–	–	–
Springs, white and pink	3,531	7,537	4,864	3,795	123	–	–	–	–	–	–
Chums	12,591	128,013	251,266	240,381	47,178	–	–	–	–	–	–
Pinks	14,391	43,186	57,035	49,156	34,993	–	–	–	–	–	–
Cohoes	20,555	44,884	40,732	31,733	28,489	–	–	–	–	–	–
Bluebacks and Steelheads	435	8,645	4,215	2,916	–	–	–	–	–	–	–
Totals	**87,971**	**276,419**	**392,663**	**377,884**	**124,731**	–	–	–	–	–	–

OUTLYING DISTRICTS*

Sockeyes	67,156	54,677	51,980	32,902	36,150	98,660	87,130	114,136	79,464	67,866	70,506
Springs	15,633	14,766	8,583	6,056	6,575	9,488	7,128	7,246	22,837	12,659	7,439
Chums	30,946	165,717	90,464	112,364	113,634	40,849	70,727	52,758	37,734	39,167	5,551
Pinks	247,149	110,300	201,817	112,209	108,622	83,626	111,930	83,430	128,296	64,312	20,098
Cohoes	33,807	34,936	42,331	30,201	41,942	48,966	43,254	28,328	65,806	42,457	19,460
Bluebacks and Steelheads	3,721	767	1,007	865	712	985	–	–	–	–	–
Totals	**398,412**	**381,163**	**396,212**	**294,597**	**307,635**	**282,574**	**320,169**	**285,898**	**334,137**	**226,461**	**123,054**

PACKED BY DISTRICTS IN PREVIOUS YEARS

Fraser River	132,860	158,628	206,003	377,988	127,472	320,519	349,294	782,429	199,322	301,344	247,994
Skeena River	334,392	398,877	374,216	292,219	223,158	279,161	237,634	164,055	254,258	254,410	222,035
Rivers Inlet	152,828	80,367	103,155	95,302	85,383	146,838	109,052	68,096	137,697	101,066	129,398
Naas River	81,153	97,512	143,908	119,495	126,686	104,289	94,890	53,423	71,162	65,684	39,720
Vancouver Island	87,971	276,419	392,663	377,884	124,731	313,894	320,169	285,898	334,187	226,461	123,054
Outlying Districts	398,412	381,163	396,212	294,597	307,635						
Grand Totals	**1,187,616**	**1,392,966**	**1,616,157**	**1,557,485**	**995,065**	**1,164,701**	**1,111,039**	**1,353,901**	**996,626**	**948,965**	**762,201**

*Prior to 1916, included Vancouver Island.

III. (2) Detailed Statement of Fishing Bounties paid to Vessels and Boats for the year 1920

Provinces and Counties	No. of vessels	Tonnage	Average tonnage	No. of men	Amount paid	No. of boats	No. of men	Amount paid	Total bounty paid to vessels and boats 1920
					$ cts.			$ cts.	$ cts.
Prince Edward Island—									
Kings	4	67	17	13	165 80	312	433	2,945 30	3,111 10
Prince	5	77	15	20	229 00	275	498	3,261 80	3,490 80
Queens	3	36	12	7	89 20	104	216	1,419 60	1,508 80
Total	**12**	**180**	**15**	**40**	**484 00**	**691**	**1,147**	**7,626 70**	**8,110 70**
Nova Scotia—									
Annapolis	1	60	60	20	212 00	115	190	1,268 90	1,480 90
Antigonish	–	–	–	–	–	121	182	1,231 20	1,231 20
Cape Breton	16	212	13	64	691 00	222	385	2,556 50	3,247 50
Cumberland	–	–	–	–	–	2	3	20 30	20 30
Digby	4	118	30	29	338 40	319	534	3,574 40	3,912 80
Guysborough	56	877	16	248	2,736 60	619	980	6,586 80	9,323 40
Halifax	59	891	15	249	2,764 20	1,027	1,392	9,540 60	12,304 80
Hants	1	14	14	2	29 20	–	–	–	29 20
Inverness	22	342	16	106	1,136 80	288	569	3,759 90	4,896 70
Kings	1	11	11	3	33 80	43	61	415 10	448 90
Lunenburg	144	9,295	65	2,422	27,627 60	536	651	4,514 00	32,141 60
Pictou	–	–	–	–	–	39	51	344 10	344 10
Queens	12	231	19	62	697 40	158	249	1,683 00	2,380 40
Richmond	31	561	18	156	1,726 20	355	608	4,059 80	5,786 00
Shelburne	25	660	26	185	2,045 60	534	957	6,368 70	8,414 30
Victoria	12	181	15	52	576 40	236	351	2,373 10	2,949 50
Yarmouth	21	1,151	55	348	3,775 40	88	180	1,186 00	4,961 40
Total	**405**	**14,604**	**36**	**3,946**	**44,390 60**	**4,702**	**7,343**	**49,482 40**	**93,873 00**
New Brunswick—									
Charlotte	6	90	15	23	253 60	303	499	3,344 90	3,598 50
Gloucester	177	2,673	15	721	8,064 60	66	135	889 50	8,954 10
Kent	7	70	10	18	206 80	57	119	782 90	989 70
Northumberland	1	21	21	4	51 40	1	3	19 30	70 70
Restigouche	1	11	11	1	18 60	1	1	7 10	25 70
St. John	–	–	–	–	–	12	19	127 90	127 90
Westmorland	–	–	–	–	–	1	1	7 10	7 10
Total	**192**	**2,865**	**15**	**767**	**8,595 00**	**441**	**777**	**5,178 70**	**13,773 70**
Quebec—									
Bonaventure	1	11	11	2	26 20	216	374	2,479 50	2,505 70
Gaspé	1	10	10	4	39 20	2,182	3,982	26,250 20	26,289 40
Rimouski	–	–	–	–	–	50	74	501 40	501 40
Saguenay	1	20	20	3	42 80	770	1,121	7,422 60	7,465 40
Total	**3**	**11**	**14**	**9**	**108 20**	**3,218**	**5,551**	**36,653 70**	**36,761 90**
Grand Totals	**612**	**17,690**	**29**	**4,762**	**53,577 80**	**9,052**	**14,818**	**98,941 50**	**152,519 30**

III. (3) Imports and Exports of Fish and Fish Products

STATEMENT showing the Quantities and Values of Fish and Fish Products Imported into Canada for Consumption during the Fiscal Year ended March 31, 1921.

Classification		Fiscal Year, 1921	
		Quantity	Value
Fish and Fish Products—			$
Fish—			
Anchovies, sardines, sprats, and other fish, packed in oil or otherwise, in tin boxes, weighing:			
Over 20 but not over 36 ounces each	box	10,004	4,206
Over 12 but not over 20 ounces each	box	51,048	14,378
Over 8 but not over 12 ounces each	box	181,236	43,736
8 ounces or less	box	3,703,410	646,844
Bait fish, fresh	lb.	–	33
Cod, haddock, and pollock—			
Dried	lb.	9,186,954	874,001
Fresh	lb.	1,111,052	45,222
Smoked	lb.	1,580	166
Wet salted or pickled	lb.	801,624	44,573
Halibut, fresh or frozen	lb.	2,617,947	247,764
Herrings, canned	lb.	75,271	18,403
Herrings, fresh or frozen	lb.	397,065	10,552
Herrings, pickled or salted	lb.	9,934,208	427,935
Herrings, smoked	lb.	147,691	5,178
Live fish or fish eggs for propagating purposes		–	1,215
Lobsters, canned	lb.	195,919	104,058
Lobsters, fresh		–	8,871
Mackerel, fresh	lb.	50,374	7,155
Mackerel, pickled	lb.	2,964	428
Oysters, canned in cans not over one pint	can	297,555	52,145
Oysters, canned in cans over one pint but not over one quart	can	860	356
Oysters, canned in cans exceeding one quart	qt.	3,007	2,104
Oysters, fresh in shells	bbl.	2,941	23,919
Oysters, shelled in bulk	gal.	143,576	356,038
Oysters, prepared or preserved, n.o.p.	lb.	15,765	12,052
Salmon, canned, prepared or preserved	lb.	160,424	29,786
Salmon, fresh	lb.	1,572,832	165,717
Salmon, pickled or salted	lb.	330,334	29,062
Salmon, smoked	lb.	49,237	13,971
Seed and breeding oysters imported for the purpose of being planted in Canadian waters		–	8,523
Squid		–	45,750
Other fish—			
Dried	lb.	305,423	97,518
Fresh	lb.	974,643	109,589
Pickled	lb.	1,423,806	125,739
Preserved in oil		–	37,376
Prepared or preserved, n.o.p		–	109,748
Smoked or boneless	lb.	16,756	3,898
Fish Products—			
Ambergris		–	164
Fish offal or refuse		–	60,639
Fur skins, undressed, the produce of marine animals		–	2,105
Oils—			
Cod liver oil	gal.	99,447	168,590
Seal oil	gal.	55,808	70,552
Whale and spermaceti oil	gal.	10,689	10,988
Other fish oil	gal.	35,624	28,210
Pearl, mother of, unmanufactured		–	30,843
Sponges of marine production		–	88,420
Tortoise and other shells, unmanufactured		–	26,271
Turtles		–	6,562
Whalebone, unmanufactured	lb.	600	562
Other fish and fish products		–	70,540
Total Fish and Fish Products		–	4,292,455

III. (3) Imports and Exports of Fish and Fish Products—*con.*

STATEMENT showing the Quantities and Values of Fish and Fish Products of Canadian origin Exported from Canada during the Fiscal Year ended March 31, 1921.

Classification		Fiscal Year, 1921	
		Quantity	Value
Fish and Fish Products—			$
Fish—			
Alewives, salted	cwt.	27,756	127,367
Bait fish	cwt.	41,180	51,285
Clams, canned	cwt.	4,925	63,818
Clams, fresh	cwt.	1,210	3,289
Codfish, boneless, canned or preserved, n.o.p.	cwt.	15,943	224,568
Codfish, dried	cwt.	457,014	5,220,413
Codfish, fresh and frozen	cwt.	22,694	117,095
Codfish, green salted (pickled)	cwt.	124,945	765,935
Codfish, smoked	cwt.	125	2,170
Eels	cwt.	8,039	83,854
Haddock, canned	cwt.	1,988	36,014
Haddock, dried	cwt.	34,600	294,957
Haddock, fresh and frozen	cwt.	19,527	75,387
Haddock, smoked	cwt.	14,319	152,637
Halibut, fresh and frozen	cwt.	55,695	913,085
Herrings, lake, fresh and frozen	cwt.	89,601	810,448
Herrings, lake, pickled	cwt.	3,241	14,043
Herrings, lake, smoked	cwt.	460	3,037
Herrings, sea, canned	cwt.	20,588	274,354
Herrings, sea, dry salted	cwt.	561,675	991,309
Herrings, sea, fresh and frozen	cwt.	288,088	247,676
Herrings, sea, pickled	cwt.	121,632	482,189
Herrings, sea, smoked	cwt.	64,614	386,754
Lobsters, canned	cwt.	66,585	5,179,569
Lobsters, fresh	cwt.	52,643	1,033,738
Mackerel, canned	cwt.	689	9,168
Mackerel, fresh and frozen	cwt.	48,141	573,712
Mackerel, pickled	cwt.	61,298	564,228
Oysters, fresh	cwt.	691	6,369
Pilchards, canned	cwt.	24,647	269,100
Pollock, hake and cusk, boneless	cwt.	159	2,153
Pollock, hake and cusk, dried	cwt.	62,304	534,007
Pollock, hake and cusk, fresh and frozen	cwt.	4,049	10,763
Pollock, hake and cusk, green salted	cwt.	21,367	68,252
Salmon, canned	cwt.	307,578	7,580,977
Salmon, dry salted (chum)	cwt.	56,873	131,160
Salmon, fresh and frozen	cwt.	87,168	743,812
Salmon, pickled	cwt.	10,978	207,367
Salmon, smoked	cwt.	135	2,344
Salmon or lake trout	cwt.	29,842	363,758
Sea fish, other, fresh	cwt.	12,008	31,080
Sea fish, other, pickled	cwt.	209	1,932
Sea fish, other, preserved	cwt.	489	9,904
Shellfish, other, fresh		–	41,810
Smelts	cwt.	59,921	774,359
Swordfish	cwt.	2,824	38,362
Tongues and sounds	cwt.	1,043	18,684
Tullibee	cwt.	63,293	324,858
Whale meat	cwt.	2,693	20,053
Whitefish	cwt.	108,080	1,330,690
All other fish, fresh and frozen	cwt.	219,694	1,916,078
All other fish, pickled	cwt.	6	32
Fish Products—			
Fish offal or refuse		–	190,213
Oils—			
Cod liver oil	gal.	98,303	87,427
Seal oil	gal.	2,298	2,349
Whale oil	gal.	78,542	95,454
Other fish oil	gal.	96,462	65,789
Seal skins	no.	3,613	33,736
Other articles of the fisheries		–	10,148
Total Fish and Fish Products		–	33,615,119

III. (3) Imports and Exports of Fish and Fish Products—*con.*

STATEMENT showing Quantities of the Principal Fish and Fish Products of Canadian origin exported from Canada during the Fiscal Year ending March 31, 1921—*con.*

	Countries to which Exported	Alewives, salted	Bait fish	Clams	
				Canned	Fresh
		cwt.	cwt.	cwt.	cwt.
1	United Kingdom	-	-	-	-
2	Bermuda	-	-	-	-
3	British Africa, South	-	-	-	-
4	British Africa, West	-	-	-	-
	British East Indies—				
5	Ceylon	-	-	-	-
6	India	-	-	-	-
7	Straits Settlements	-	-	-	-
8	Other	-	-	-	-
9	British Guiana	364	-	-	-
	British Oceania—				
10	Australia	-	-	-	-
11	Fiji	-	-	-	-
12	New Zealand	-	-	-	-
13	Other	-	-	-	-
	British West Indies—				
14	Barbados	106	-	4	-
15	Jamaica	9,758	-	-	-
16	Trinidad and Tobago	155	-	-	-
17	Other	1,549	-	-	-
18	Egypt and Sudan	-	-	-	-
19	Hong Kong	-	-	-	-
20	Malta	-	-	-	-
21	Newfoundland	-	560	-	-
22	Argentine Republic	-	-	-	-
23	Belgium	-	-	-	-
24	Bolivia	-	-	-	-
25	Brazil	-	-	-	-
26	Chile	-	-	-	-
27	China	-	-	-	-
28	Colombia	-	-	-	-
29	Costa Rica	42	-	-	-
30	Cuba	20	-	-	-
31	Denmark	-	-	-	-
32	Ecuador	-	-	-	-
33	France	-	-	-	-
34	French Guiana	-	-	-	-
35	French Oceania	-	-	-	-
36	French West Indies	-	-	-	-
37	St. Pierre and Miquelon	-	-	-	-
38	Germany	-	-	-	-
39	Greece	-	-	-	-
40	Hayti	560	-	-	-
41	Italy	-	-	-	-
42	Japan	-	-	-	-
43	Mexico	-	-	-	-
44	Netherlands	-	-	-	-
45	Dutch East Indies	-	-	-	-
46	Dutch Guiana	1,725	-	-	-
47	Dutch West Indies	-	-	-	-
48	Nicaragua	-	-	-	-
49	Norway	-	-	-	-
50	Panama	27	-	-	-
51	Peru	-	-	-	-
52	Russia	-	-	-	-
53	San Domingo	-	-	-	-
54	Siam	-	-	-	-
55	Spain	-	-	-	-
56	Sweden	-	-	-	-
57	Switzerland	-	-	-	-
58	Turkey	-	-	-	-
59	United States	13,350	40,620	4,921	1,210
60	Alaska	-	-	-	-
61	American Virgin Islands	-	-	-	-
62	Philippine Islands	-	-	-	-
63	Porto Rico	100	-	-	-
64	Uruguay	-	-	-	-
65	Venezuela	-	-	-	-
66	Other Foreign Countries	-	-	-	-
	RECAPITULATION				
67	British Empire	11,932	560	4	-
68	Foreign Countries	15,824	40,620	4,921	1,210
69	**Total**	27,756	41,180	4,925	1,210

III. (3) Imports and Exports of Fish and Fish Products—*con.*

STATEMENT showing Quantities of the Principal Fish and Fish Products of Canadian origin exported from Canada during the Fiscal Year ended March 31, 1921—*con.*

Codfish				Eels	Haddock				Halibut, fresh and frozen	Herrings, Lake		
Boneless canned or preserved	Dried	Fresh and frozen	Green salted (pickled)		Canned	Dried	Fresh and frozen	Smoked		Fresh and frozen	Pickled	
cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	
2	1,454	-	-	-	77	224	-	-	-	-	-	1
32	2,873	-	-	-	3	19	-	87	1	-	-	2
172	-	-	-	-	529	-	-	-	-	-	-	3
-	76	-	-	-	1	94	-	-	-	-	-	4
-	-	-	-	-	-	-	-	-	-	-	-	5
-	-	-	-	-	-	-	-	-	-	-	-	6
-	-	-	-	-	-	-	-	-	-	-	-	7
-	-	-	-	-	-	-	-	-	-	-	-	8
43	2,214	-	-	-	67	887	-	14	-	-	-	9
426	-	9	-	-	-	-	-	92	55	-	-	10
-	-	-	-	-	-	-	-	-	-	-	-	11
37	-	-	-	-	74	-	-	60	-	-	-	12
-	-	-	-	-	-	-	-	-	-	-	-	13
-	5,595	-	-	-	2	1,115	-	3	-	-	-	14
-	26,721	-	-	-	3	3,021	-	-	-	-	-	15
3	23,147	-	-	-	7	1,740	-	40	-	-	-	16
6	2,833	-	-	-	7	384	-	5	-	-	-	17
-	-	-	-	-	1	-	-	-	-	-	-	18
-	-	-	-	-	-	-	-	18	-	-	-	19
-	-	-	-	-	-	-	-	-	-	-	-	20
1	3,143	-	347	-	-	-	-	41	3	-	-	21
-	155	-	-	-	-	-	-	-	-	-	-	22
-	-	-	-	-	-	-	-	-	-	-	-	23
-	-	-	-	-	-	-	-	-	-	-	-	24
48	79,848	-	-	-	-	1,683	-	-	-	-	-	25
-	-	-	-	-	-	-	-	-	-	-	-	26
5	-	-	-	-	-	-	-	-	-	-	-	27
-	-	-	-	-	-	-	-	-	-	-	-	28
-	1,652	-	-	-	-	-	-	-	-	-	-	29
73	115,708	-	-	-	-	4,910	-	-	-	-	-	30
-	-	-	-	-	-	-	-	-	-	-	-	31
-	-	-	-	-	-	-	-	-	-	-	-	32
5	-	-	14	-	44	-	-	-	-	-	-	33
-	23	-	-	-	-	-	-	-	-	-	-	34
-	-	-	-	-	-	-	-	-	-	-	-	35
-	3,193	-	-	-	-	512	-	-	-	-	-	36
-	-	-	-	-	-	-	-	-	-	-	-	37
-	-	-	-	-	-	-	-	-	-	-	-	38
-	2,068	-	-	-	-	-	-	-	-	-	-	39
-	124	-	-	-	-	-	-	-	-	-	-	40
-	81	-	-	-	-	448	-	-	-	-	-	41
-	-	-	-	-	-	-	-	-	-	-	-	42
-	110	-	-	-	-	-	-	-	-	-	-	43
-	-	-	-	-	-	-	-	-	-	-	-	44
-	-	-	-	-	-	-	-	-	-	-	-	45
-	140	-	-	-	-	760	-	-	-	-	-	46
-	-	-	-	-	-	-	-	-	-	-	-	47
-	33	-	-	-	-	-	-	-	-	-	-	48
-	-	-	-	-	-	-	-	-	-	-	-	49
-	3,299	-	-	-	-	-	-	-	-	-	-	50
-	-	-	-	-	-	-	-	-	-	-	-	51
-	-	-	-	-	-	-	-	-	-	-	-	52
-	192	-	-	-	3	3	-	-	-	-	-	53
-	-	-	-	-	-	-	-	-	-	-	-	54
-	7,040	-	-	-	-	-	-	-	-	-	-	55
-	-	-	-	-	-	-	-	-	-	-	-	56
-	-	-	-	-	2	-	-	-	-	-	-	57
6	-	-	-	-	6	-	-	-	-	-	-	58
15,058	86,797	22,685	124,584	8,039	1,162	3,221	19,527	13,936	55,636	89,601	3,241	59
-	-	-	-	-	-	-	-	23	-	-	-	60
-	22	-	-	-	-	-	-	-	-	-	-	61
-	-	-	-	-	-	-	-	-	-	-	-	62
-	88,398	-	-	-	-	15,579	-	-	-	-	-	63
-	-	-	-	-	-	-	-	-	-	-	-	64
26	-	-	-	-	-	-	-	-	-	-	-	65
-	*75	-	-	-	-	-	-	-	-	-	-	66
722	68,056	9	347	-	771	7,484	-	360	59	-	-	67
15,221	388,958	22,685	124,598	8,039	1,217	27,116	19,527	13,959	55,636	89,601	3,241	68
15,943	**457,014**	**22,694**	**124,945**	**8,039**	**1,988**	**31,600**	**19,527**	**14,319**	**55,695**	**89,601**	**3,241**	69

*Guatemala, 25; and Honduras, 50.

III. (3) Imports and Exports of Fish and Fish Products—*con.*

STATEMENT showing Quantities of the Principal Fish and Fish Products of Canadian origin exported from Canada during the Fiscal Year ended March 31, 1921—*con.*

	Countries to which Exported	Herrings, Sea				
		Canned	Dry-salted	Fresh and frozen	Pickled	Smoked
		cwt.	cwt.	cwt.	cwt.	cwt.
1	United Kingdom	-	-	-	-	17
2	Bermuda	57	-	-	54	194
3	British Africa, South	943	-	-	-	-
4	British Africa, West	-	-	-	130	-
	British East Indies—					
5	Ceylon	-	-	-	-	-
6	India	10	-	-	-	-
7	Straits Settlements	140	-	-	-	-
8	Other	-	-	-	-	-
9	British Guiana	1,687	-	-	5,445	1,863
	British Oceania—					
10	Australia	3,672	-	10	326	312
11	Fiji	184	-	-	-	8
12	New Zealand	5,107	-	-	-	57
13	Other	4	-	-	-	-
	British West Indies—					
14	Barbados	278	-	-	3,061	779
15	Jamaica	1,779	-	-	43,959	676
16	Trinidad and Tobago	1,918	-	-	1,383	3,742
17	Other	429	-	-	6,662	1,018
18	Egypt and Sudan	-	-	-	-	-
19	Hong Kong	-	218,045	-	252	24
20	Malta	-	-	-	-	-
21	Newfoundland	7	-	-	-	7
22	Argentine Republic	635	-	-	-	-
23	Belgium	-	-	-	-	-
24	Bolivia	-	-	-	-	-
25	Brazil	882	-	-	-	-
26	Chile	9	-	-	-	-
27	China	192	115,985	-	-	38
28	Colombia	332	-	-	-	-
29	Costa Rica	-	-	-	128	15
30	Cuba	413	-	-	1,150	283
31	Denmark	-	-	-	-	-
32	Ecuador	21	-	-	-	-
33	France	-	-	-	-	-
34	French Guiana	-	-	-	-	-
35	French Oceania	-	-	-	-	-
36	French West Indies	-	-	-	566	40
37	St. Pierre and Miquelon	5	-	-	-	1
38	Germany	-	-	-	-	532
39	Greece	-	-	-	-	-
40	Hayti	-	-	-	-	80
41	Italy	10	-	-	-	-
42	Japan	5	219,829	-	7,402	-
43	Mexico	-	-	-	-	-
44	Netherlands	-	-	-	-	-
45	Dutch East Indies	290	-	-	-	-
46	Dutch Guiana	-	-	-	47	372
47	Dutch West Indies	1	-	-	12	-
48	Nicaragua	-	-	-	-	-
49	Norway	-	-	-	-	-
50	Panama	-	-	-	62	38
51	Peru	26	-	-	-	-
52	Russia	-	4	-	-	-
53	San Domingo	-	-	-	100	-
54	Siam	-	-	-	-	-
55	Spain	-	-	-	-	-
56	Sweden	-	-	-	-	-
57	Switzerland	2	-	-	-	-
58	Turkey	-	-	-	-	-
59	United States	1,545	7,812	288,078	36,774	54,503
60	Alaska	-	-	-	15	5
61	American Virgin Islands	-	-	-	-	-
62	Philippine Islands	5	-	-	-	-
63	Porto Rico	-	-	-	14,104	10
64	Uruguay	-	-	-	-	-
65	Venezuela	-	-	-	-	-
66	Other Foreign Countries	-	-	-	-	-
	RECAPITULATION					
67	British Empire	16,215	218,045	10	61,272	8,697
68	Foreign Countries	4,373	343,630	288,078	60,360	55,917
69	Total	20,588	561,675	288,088	121,632	64,614

III. (3) Imports and Exports of Fish and Fish Products—*con.*

STATEMENT showing Quantities of the Principal Fish and Fish Products of Canadian origin exported from Canada during the Fiscal Year ended March 31, 1921—*con.*

Lobsters		Mackerel		Pilchards	Pollock, Hake and Cusk			Salmon				
Canned	Fresh	Fresh and frozen	Pickled	Canned	Dried	Fresh and frozen	Green salted	Canned	Dry-salted (Chum)	Fresh and frozen	Pickled	
cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	
23,446	-	-	-	98	-	-	-	167,657	-	2,004	173	1
6	-	-	274	482	104	-	-	198	-	3	8	2
-	-	-	-	11	-	-	-	2,693	-	-	-	3
-	-	-	70	-	-	-	-	1,085	160	-	-	4
-	-	-	-	-	-	-	-	-	-	-	-	5
-	-	-	-	14	-	-	-	545	-	-	-	6
-	-	-	-	437	-	-	-	21,930	-	-	-	7
-	-	-	-	-	-	-	-	12	-	-	-	8
5	-	-	6,451	407	20,514	-	20	416	-	-	253	9
-	-	-	-	6,998	-	-	-	22,859	-	122	34	10
-	-	-	-	655	-	-	-	8,088	-	4	-	11
19	-	-	-	3,065	-	-	-	8,389	-	-	-	12
-	-	-	-	2,902	-	-	-	462	-	-	-	13
-	-	-	33	326	982	-	-	947	-	-	20	14
1	-	-	24,188	-	5,104	-	-	921	-	-	340	15
2	-	-	-	-	1,886	-	-	1,018	-	2	403	16
1	-	-	485	-	10,513	-	-	264	-	-	160	17
-	-	-	-	-	-	-	-	551	-	-	-	18
-	-	-	-	-	-	-	-	145	2,574	32	-	19
-	-	-	-	-	-	-	-	49	-	-	-	20
255	-	-	3	-	-	-	-	1	-	-	5	21
520	-	-	15	9	-	-	-	34	-	-	-	22
2,001	-	-	-	-	-	-	-	1,271	-	-	-	23
-	-	-	-	-	-	-	-	509	-	-	-	24
-	-	-	-	-	9,490	-	-	13	-	-	-	25
-	-	-	-	4	-	-	-	4,882	-	-	-	26
-	-	-	-	68	-	-	-	123	-	-	-	27
-	-	-	-	-	-	-	-	156	-	-	-	28
-	-	-	150	-	-	-	-	10	-	-	1	29
31	-	-	78	1	90	-	-	1,771	-	-	-	30
1,055	-	-	-	-	-	-	-	1	-	-	-	31
-	-	-	-	328	-	-	-	751	-	-	-	32
3,729	-	-	-	49	-	-	-	35,411	-	-	-	33
-	-	-	-	-	-	-	-	-	-	-	-	34
-	-	-	-	173	-	-	-	264	-	-	-	35
-	-	-	-	-	111	-	-	-	-	-	-	36
42	-	-	1	4	-	-	-	18	-	-	-	37
-	-	-	-	-	-	-	-	480	-	-	-	38
-	-	-	-	-	-	-	-	480	-	-	-	39
-	-	-	2	-	-	-	-	-	-	-	-	40
-	-	-	-	-	-	-	-	485	-	-	-	41
-	-	-	-	497	-	-	-	29	53,913	587	331	42
-	-	-	-	-	-	-	-	1,255	-	-	-	43
84	-	-	-	-	-	-	-	524	-	-	-	44
-	-	-	-	12	-	-	-	3,915	-	-	-	45
-	-	-	140	-	2,880	-	-	444	-	-	196	46
-	-	-	4	-	2	-	-	-	-	-	-	47
-	-	-	-	-	-	-	-	-	-	-	-	48
748	-	-	-	-	-	-	-	50	-	-	-	49
-	-	-	692	-	-	-	-	-	-	-	29	50
-	-		-	-	-	-	-	1,622	-	-	-	51
-	-	-	-	-	-	-	-	-	-	-	-	52
-	-	-	-	-	148	-	-	-	-	-	-	53
-	-	-	-	336	-	-	-	816	-	-	-	54
-	-	-	-	-	-	-	-	167	-	-	-	55
3,157	-	-	-	-	-	-	-	82	-	-	30	56
12	-	-	-	-	-	-	-	24	-	-	-	57
-	-	-	-	-	-	-	-	19	-	-	-	58
31,462	52,643	48,141	28,410	7,466	6,199	4,049	21,347	12,285	226	75,635	8,979	59
-	-	-	-	-	-	-	-	-	-	8,779	16	60
-	-	-	-	-	-	-	-	-	-	-	-	61
-	-	-	-	305	-	-	-	385	-	-	-	62
-	-	-	302	-	4,281	-	-	1	-	-	-	63
9	-	-	-	-	-	-	-	-	-	-	-	64
-	-	-	-	-	-	-	-	960	-	-	-	65
	-	-	-	-	-	-	-	*111	-	-	-	66
23,735	-	-	31,504	15,395	39,103	-	20	238,230	2,734	2,167	1,396	67
42,850	52,643	48,141	29,794	9,252	23,201	4,049	21,347	69,348	54,139	85,001	9,582	68
66,585	**52,643**	**48,141**	**61,298**	**24,617**	**62,304**	**4,049**	**21,367**	**307,578**	**56,873**	**87,168**	**10,978**	69

*Finland, 2 French, Africa 67; Portuguese Africa, 30; and Hawaii, 12.

III. (3) Imports and Exports of Fish and Fish Products—*concluded*

STATEMENT showing Quantities of the Principal Fish and Fish Products of Canadian origin exported from Canada during the Fiscal Year ended March 31, 1921—*concluded*.

	Countries to which Exported	Salmon or Lake Trout	Smelts	Swordfish	Tongues and Sounds	Tullibee
		cwt.	cwt.	cwt.	cwt.	cwt.
1	United Kingdom	-	-	-	-	-
2	Bermuda	-	-	-	12	-
3	British Africa, South	-	-	-	-	-
4	British Africa, West	-	-	-	-	-
	British East Indies—					
5	Ceylon	-	-	-	-	-
6	India	-	-	-	-	-
7	Straits Settlements	-	-	-	-	-
8	Other	-	-	-	-	-
9	British Guiana	-	-	-	-	-
	British Oceania—					
10	Australia	-	-	-	-	-
11	Fiji	-	-	-	-	-
12	New Zealand	-	-	-	-	-
13	Other	-	-	-	-	-
	British West Indies —					
14	Barbados	-	-	-	-	-
15	Jamaica	-	-	-	-	-
16	Trinidad and Tobago	-	-	-	-	-
17	Other	-	-	-	-	-
18	Egypt and Sudan	-	-	-	-	-
19	Hong Kong	-	-	-	-	-
20	Malta	-	-	-	-	-
21	Newfoundland	-	-	-	-	-
22	Argentine Republic	-	-	-	-	-
23	Belgium	-	-	-	-	-
24	Bolivia	-	-	-	-	-
25	Brazil	-	-	-	-	-
26	Chile	-	-	-	-	-
27	China	-	-	-	-	-
28	Colombia	-	-	-	-	-
29	Costa Rica	-	-	-	-	-
30	Cuba	-	-	-	-	-
31	Denmark	-	-	-	-	-
32	Ecuador	-	-	-	-	-
33	France	-	-	-	6	-
34	French Guiana	-	-	-	-	-
35	French Oceania	-	-	-	-	-
36	French West Indies	-	-	-	-	-
37	St. Pierre and Miquelon	-	-	-	-	-
38	Germany	-	-	-	-	-
39	Greece	-	-	-	-	-
40	Hayti	-	-	-	-	-
41	Italy	-	-	-	-	-
42	Japan	-	-	-	-	-
43	Mexico	-	-	-	-	-
44	Netherlands	-	-	-	-	-
45	Dutch East Indies	-	-	-	-	-
46	Dutch Guiana	-	-	-	-	-
47	Dutch West Indies	-	-	-	-	-
48	Nicaragua	-	-	-	-	-
49	Norway	-	-	-	-	-
50	Panama	-	-	-	-	-
51	Peru	-	-	-	-	-
52	Russia	-	-	-	-	-
53	San Domingo	-	-	-	-	-
54	Siam	-	-	-	-	-
55	Spain	-	-	-	-	-
56	Sweden	-	-	-	-	-
57	Switzerland	-	-	-	-	-
58	Turkey	-	-	-	-	-
59	United States	29,842	59,921	2,824	1,025	63,293
60	Alaska	-	-	-	-	-
61	American Virgin Islands	-	-	-	-	-
62	Philippine Islands	-	-	-	-	-
63	Porto Rico	-	-	-		-
64	Uruguay	-	-	-	-	-
65	Venezuela	-	-	-	-	-
66	Other Foreign Countries	-	-	-		
	RECAPITULATION					
67	British Empire	-	-	-	12	-
68	Foreign Countries	29,842	59,921	2,824	1,031	63,293
69	**Total**	**29,842**	**59,921**	**2,824**	**1,043**	**63,293**

III. (3) Imports and Exports of Fish and Fish Products—*Concluded*

STATEMENT showing Quantities of the Principal Fish and Fish Products of Canadian origin exported from Canada during the Fiscal Year ended March 31, 1921.—*concluded.*

Whale-meat	Whitefish	Other Fish (except Shell fish, Fresh)				Fish Oils				Seal Skins	No.
		Boneless, canned or preserved	Fresh	Pickled	Smoked	Cod liver	Seal	Whale	Other		
cwt	cwt	cwt.	cwt.	cwt.	cwt.	gal.	gal	gal.	gal.	no.	
150		-	-	50	40	-	-			875	1
-	-	16	-	-	-	-	-	-	-	-	2
-	-	-	-	-	-	-	-	-	-	-	3
-	-	-	-	-	-	-	-	-	-	-	4
-	-	-	-	-	-	-	-	-	-	-	5
-	-	-	-	-	-	-	-	-	-	-	6
-	-	-	-	-	-	-	-	-	-	-	7
-	-	-	-	-	-	-	-	-	-	-	8
-	-	1	-	-	4	-	-	-	-	-	9
-	-	-	-	-	83	-	-			-	10
-	-	-	-	-	3	-	-	-	-	-	11
-	-	-	-	-	-		-	-	-	-	12
-	-	-	-	-	-	-	-	-	-	-	13
-	-	2	-	-	-	-	-	-	-	-	14
-	-	3	-	-	-	1,181	-	-	-	-	15
-	-	11	-	-	-	-	-	-	-	-	16
-	-	1	1	-	-	-	-	-	-	-	17
-	-	-	-	-	-	-	-	-	-	-	18
-	-	-	-	-	11	-	-	-	-	-	19
-	-	-	-	-	-	-	-	-	-	-	20
-	-	3	28	-	-	3,860	-	-	-	-	21
-	-	-	-	-	-	-	-	-	-	-	22
-	-	-	-	-	-	-	-	-	-	-	23
-	-	-	-	-	-	-	-	-	-	-	24
-	-	21	-	-	-	-	-	-	-	-	25
-	-	-	-	-	-	-	-	-	-	-	26
-	-	-	-	-	-	-	-	-	-	-	27
-	-	-	-	-	-	3,031	-	-	-	-	28
-	-	-	-	-	-	-	-	-	-	-	29
	-	-	-	-	-	-	-	-	-	-	30
-	-	-	-	-	-	-	-	-	-	-	31
1	-	-	-	-	-	-	-	-	-	387	32
-	-	-	-	-	-	-	-	-	-	-	33
-	-	-	-	-	-				-	-	34
-	-	-	-	-	-	-	-	-	-	-	35
-	-	2	11	-	-	-	-	-	-	-	36
-	-	-	-	-	-	-	-	-	-	-	37
-	-	-	-	-	-	-	-	-	-	-	38
-	-	-	-	-	-	-	-	-	-	-	39
	-	-	-	-	-	-	-	-	-	-	40
127	-	-	-	-	1	-	-	-		-	41
-	-	-	-	-	-	-	-	-	-	-	42
-	-	-	-	-	-	-	-	-	-	-	43
-	-	-	-	-	-	-	-	-	-	-	44
-	-	-	-	-	-	-	-	-	-	-	45
-	-	-	-	-	-	-	-	-	-	-	46
-	-	-	-	-	-	-	-	-	-	-	47
-	-	-	-	-	-	-	-	-	-	-	48
-	-	-	-	-	-	-	-	-	-	-	49
-	-	-	-	-	-	-	-	-	-	-	50
-	-	-	-	-	-	-		-	-	-	51
-	-	-	-	-	-	-	-	-	-	-	52
-	-	-	-	-	-	-	-	-	-	-	53
-	-	-	-	-	-	-	-	-	-	-	54
-	-	-	-	-	-	-	-	-	-	-	55
-	-	-	-	-	-	-	-	-	-	-	56
-	-	-	-	-	-	-	-	-	-	-	57
-	-	-	-	-	-	-	-	-	-	-	58
2,415	108,080	1,277	232,353	165	571	90,231	2,298	78,542	96,462	2,351	59
-	-	-	-	-	7	-	-	-	-	-	60
-	-	-	-	-	-	-	-	-	-	-	61
-	-	-	-	-	-		-	-	-	-	62
-	-	-	-	-	-	-	-	-	-	-	63
-	-	-	-	-	-	-	-	-	-	-	64
-	-	-	-	-	-	-	-	-	-	-	65
-	-	-	-	-	-	-	-	-	-	-	66
150	-	37	29	50	141	5,041	-	-	-	875	67
2,543	108,080	1,300	232,364	165	579	93,262	2,298	78,542	96,462	2,738	68
2,693	**108,080**	**1,337**	**232,393**	**215**	**720**	**98,303**	**2,298**	**78,542**	**96,162**	**3,613**	**69**

III. (4) Quantities and Values of Fish landed in United States Atlantic Ports by Canadian Vessels, during the years 1918, 1919 and 1920

Months	1918		1919		1920	
	Quantities	Values	Quantities	Values	Quantities	Values
	lb.	$	lb.	$	lb.	$
January	Nil.	Nil.	193,704	11,473	59,182	3,111
February	Nil.	Nil.	524,502	22,687	37,375	2,105
March	Nil.	Nil.	170,007	6,372	Nil.	Nil.
April	563,379	18,804	216,075	4,275	Nil.	Nil.
May	833,054	28,104	864,146	20,015	Nil.	Nil.
June	1,096,149	36,467	1,079,260	28,162	61,698	2,010
July	1,145,156	46,964	57,464	5,585	268,920	17,693
August	1,012,396	42,852	34,800	2,085	1,092,526	42,250
September	30,480	2,653	Nil.	Nil.	641,256	24,773
October	413,120	16,996	94,754	3,654	173,185	5,914
November	807,177	37,577	61,435	1,953	651,399	17,813
December	295,701	17,888	Nil.	Nil.	75,164	3,359
Totals	6,196,612	248,307	3,296,147	106,261	3,060,705	119,028

CANADA

BUREAU FÉDÉRAL DE LA STATISTIQUE

SECTION DES PÊCHERIES

STATISTIQUE DES PÊCHERIES

1920

(Recueillie avec la collaboration des Services des Pêcheries du Gouvernement Fédéral et des Provinces.)

IMPRIMÉ PAR ORDRE DU PARLEMENT.

OTTAWA
F. A. ACLAND
IMPRIMEUR DE SA TRÈS EXCELLENTE MAJESTÉ LE ROI
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TABLE DES MATIÈRES

PAGES
Préface III
Notice sur les pêcheries canadiennes IV

Introduction et résumé

Quantité et valeur des principaux poissons dont on fait commerce, 1916–1920... V
La saison de pêche en 1920 ... VI
Relevé par principales espèces de poisson en 1920 VII
Moyens de productions, 1918–1920—
Pêche proprement dite... XI
Capitaux... XI
Main-d'œuvre... XI
Etablissements de préparation et de mise en boîte du poisson—
Capitaux... XI
Personnel... XII
Forme de l'organisation commerciale et moyenne du personnel employé... XIII
Employés, appointements et salaires ... XIV
Ouvriers occupés par mois... XIV
Classification des ouvriers selon leur salaire quotidien... XIV
Durée des opérations ... XV
Consommation de combustible... XV
Force motrice employée ... XV
Frais généraux... XV
Valeur des matières premières... XV
Valeur des produits... XV
Classification des établissements par importance de leur production ... XV
Répartition par provinces—
Valeur des pêcheries, 1916–1920... XVI
Quantité des principaux poissons dont on fait commerce, et leur valeur, 1916–1920... XVI
Quantité et valeur de tout le poisson pêché et mis en vente, 1920 ... XX
Proportion du poisson de mer pris en haute mer, 1920... XXVI
Capitaux engagés dans les opérations de pêche proprement dites, 1920 ... XXX
Primes de pêche, 1920 ... XXXII
Importations et exportations, 1920 ... XXXII
Revue rétrospective... XXXII
Vocabulaire ... XXXV—XXXVIII

Tableaux d'ensemble

I. Poisson pêché et vendu, 1920 ... 2–64
Ile du Prince-Edouard, 2; Nouvelle-Ecosse, 4; Nouveau-Brunswick, 32; Québec, 43; Ontario, 52; Manitoba, 52; Saskatchewan, 54; Alberta, 56; Yukon, 56; Colombie Britannique, 58.
II. Moyens de production, 1920—Capital d'exploitation, personnel, etc. ... 66–89
Ière partie—Pêche proprement dite... ...
Ile du Prince-Edouard, 66; Nouvelle-Ecosse, 68; Nouveau-Brunswick, 76; Québec, 80; Ontario, 84; Manitoba, 84; Saskatchewan, 86; Alberta, 86; Yukon, 86; Colombie Britannique, 88.
2e Partie—Etablissements de préparation et de mise en boîte du poisson ... 90
(a) Relevé général des statistiques ... 90
(b) Capitaux engagés ... 96
(c) Employés, appointements et salaires ... 98
(d) Personnel occupé par mois... 104
(e) Classification des ouvriers, selon leur salaire quotidien ... 106
(f) Durée des opérations et heures de travail ... 106
(g) Consommation de combustible ... 110
(h) Force motrice employée... 112
(i) Forme de l'organisation commerciale ... 114
(j) Classification des établissements par importance de leur production ... 115
(k) Classification des établissements par rapport à leur personnel... 116
III. (1) La manutention du saumon en Colombie Britannique, 1910-1920 ... 118
(2) Primes de pêche, 1920... 119
(3) Importations et exportations de poisson et de produits du poisson, 1920... 120
(4) Poisson débarqué par les pêcheurs canadiens dans les ports des Etats-Unis, sur le littoral de l'Atlantique 1918–1920 ... 128

Préface

Ce rapport est publié en vertu d'une entente établissant la coopération en matière de statistique, intervenue entre le Bureau Fédéral de la Statistique et les différents services gouvernementaux ayant juridiction sur les pêcheries canadiennes. Ces services comprennent: la Direction des Pêcheries du ministère de la Marine et des Pêcheries, qui exerce sa juridiction sur les pêcheries maritimes, ainsi que sur les pêcheries fluviales et lacustres du Manitoba, de la Saskatchewan et de l'Alberta; et les Divisions des Pêcheries des provinces d'Ontario et de Québec, qui régissent les pêcheries en eau douce de leurs provinces respectives. Les pêcheries intérieures des provinces maritimes n'ont que fort peu d'importance au point de vue commercial; leurs statistiques sont colligées par le personnel de la Direction des Pêcheries du Dominion. Il en est de même pour celles de la Colombie Britannique. Cette dernière province possède une Division des Pêcheries, mais cet organisme ne s'occupe pas de statistique pour son propre compte.

En vertu de l'arrangement dont il est parlé plus haut, les statistiques du poisson pêché et des produits offerts en vente à l'état frais ou après une préparation sommaire, sont recueillies par les fonctionnaires locaux des services des pêcheries, vérifiées et condensées au ministère de la Marine et des Pêcheries, puis compilées au Bureau Fédéral de la Statistique. En ce qui concerne le poisson industriellement préparé et ses sous-produits, des formules similaires à celles en usage dans le recensement des autres branches de production sont envoyées directement par ce Bureau aux poissonneries, établissements de salaisons, de conserve de poisson, etc., les fonctionnaires des services des pêcheries s'assurant que ces formules sont consciencieusement remplies et promptement retournées. Les fonctionnaires des gouvernements provinciaux voudront bien accepter nos remerciements pour le concours qu'ils nous ont prêté.

R. H. COATS,
Statisticien du Dominion.

BUREAU FÉDÉRAL DE LA STATISTIQUE,

OTTAWA, 7 septembre 1921.

Notice sur les pêcheries canadiennes

On peut dire sans exagération que le Canada possède les pêcheries les plus vastes du monde et que l'abondance, l'excellence et la variété de leurs produits ne sont pas surpassées. La richesse des eaux canadiennes est démontrée par le fait que la totalité du saumon, du homard, du hareng, du maquereau et de la sardine, la plus grande partie de l'églefin et une portion considérable de la morue, de la merluche et du merlan que l'on y prend, sont pêchés dans une zone qui ne s'étend pas à plus de dix ou douze milles du rivage.

Les rives des provinces de l'Atlantique, depuis Grand Manan jusqu'au Labrador, mesurent plus de 5,000 milles, à l'exclusion des anses et échancrures qui les dentellent, tandis que les étendues maritimes qu'elles embrassent comprennent: la Baie de Fundy, avec ses 8,000 milles carrés; l'estuaire du St-Laurent, au moins dix fois plus grand, et d'autres eaux océaniques représentant ensemble plus de 200,000 milles carrés, c'est-à-dire plus des quatre-cinquièmes des pêcheries du nord de l'Atlantique. De plus l'on compte 15,000 milles carrés d'eaux intérieures, sous le contrôle absolu du Dominion.

Mais ces vastes étendues ne représentent qu'une partie des eaux canadiennes. La Baie d'Hudson, dont les côtes s'étendent sur une longueur de 6,000 milles, est plus grande que la Méditerranée. Sur le Pacifique, le littoral canadien mesure plus de 7,000 milles; ses baies et ses fjords innombrables offrent aux pêcheurs une multitude d'abris très sûrs. Enfin, disséminés sur tout le territoire, s'égrène une série de lacs, couvrant ensemble une superficie de 220,000 milles carrés, soit plus de la moitié des eaux douces du globe; dans cette étendue, la part du Canada dans les grands lacs du bassin du St-Laurent, figure pour 34,000 milles carrés.

L'abondance et l'excellence du poisson sont un facteur de tout premier ordre. Pendant longtemps, la morue et le saumon se sont disputé le premier rang mais, dans les dernières années, le homard tant par son volume que sa cherté, a quelquefois relégué la morue au troisième rang.

On peut considérer la pêche dans l'Atlantique sous deux aspects distincts; la pêche hauturière (ou de haute mer) et la pêche côtière. La pêche hauturière est pratiquée par des navires de 40 à 100 tonneaux, montés par des équipages de douze à vingt hommes, qui pêchent à la ligne, et aussi par des chalutiers à vapeur d'environ 150 pieds de longueur. Comme boette, on emploie principalement le hareng, l'encornet et le capelan et l'on prend de la morue, de l'églefin, de la merluche, du merlan et du flétan. Quant à la pêche côtière, elle se fait au moyen de petites embarcations, généralement automotrices, que montent deux ou trois hommes et dans de petites barques, ayant de quatre à sept hommes d'équipage. Ces pêcheurs en bateau font usage de rets à mailles, de chaluts et de lignes à main, tandis que ceux qui pêchent sur le rivage se servent de pièges ou casiers, de seines et de nasses. Les poissons comestibles que l'on prend sur la côte sont: la morue, la merluche, l'églefin, le merlan, le flétan, le hareng, le maquereau, le gasparot, l'alose, l'éperlan, le carrelet et la sardine.

Les plus importantes pêcheries de homard de l'univers se trouvent tout le long du littoral oriental du Canada, cependant que d'excellents bancs d'huîtres existent en maintes parties de l'estuaire du St-Laurent, notamment à proximité de l'île du Prince-Edouard.

La pêche du saumon prédomine sur le littoral du Pacifique, quoique de grands navires, bien équipés, se livrent à une fructueuse pêche du flétan, dans les eaux septentrionales de la Colombie Britannique, la méthode usitée étant la ligne de fond que l'on tend et que l'on relève au moyen de doris, tout comme cela se pratique dans les pêcheries en eau profonde de l'Atlantique. Le hareng est très abondant sur la côte du Pacifique et fournit une inépuisable provision de boette pour la pêche du flétan. Dans les lacs intérieurs, on pêche à l'aide de rets à mailles, d'éperviers, de seines et de lignes ordinaires.

LES PÊCHERIES EN 1920

La valeur totale de la production des pêcheries canadiennes, pour l'année 1920, s'élève à $49,241,339 contre $56,508,479 en 1919 et $60,250,544 en 1918. Ces chiffres représentent la valeur du poisson mis sur le marché, soit frais, soit préparé par les pêcheurs ou dans les fabriques.

Le tableau suivant indique la quantité et la valeur des principaux poissons dont on fait commerce (ceux dont la valeur a atteint $100,000 ou plus) pendant les cinq dernières années; la dernière colonne signale l'augmentation ou la diminution en 1920, comparé à 1919.

1. Quantité[1] et valeur[2] des principaux poissons, 1916-1920

Espèces de poisson		1916	1917	1918	1919	1920	Augmentation ou diminution en 1920 sur 1919 Aug. + Dimin. —
Saumon	qtx.	1,239,668	1,642,770	1,531,773	1,688,653	1,284,729	— 403,924
	$	10,882,431	17,411,029	17,869,517	17,889,913	15,595,970	— 2,293,943
Homard	qtx.	480,898	474,871	264,096	345,806	399,985	+ 54,179
	$	5,508,054	5,654,265	3,531,104	5,338,343	7,152,455	+ 1,814,112
Morue	qtx.	2,026,231	2,302,987	2,206,666	2,606,770	1,982,706	— 624,064
	$	5,449,964	8,281,920	10,083,562	9,987,612	6,270,171	— 3,717,441
Flétan	qtx.	142,823	140,024	207,139	243,449	262,726	+ 19,277
	$	2,263,573	2,066,635	5,490,226	5,119,842	4,535,188	— 584,654
Hareng	qtx.	1,751,314	1,481,708	1,973,669	1,573,986	2,072,723	+ 498,737
	$	3,050,421	3,693,688	4,719,561	3,347,080	3,428,298	+ 81,218
Ablette	qtx.	164,992	178,838	205,044	197,504	181,764	— 15,639
	$	1,135,486	1,248,006	1,927,863	1,849,741	2,015,299	+ 165,558
Eglefin	qtx.	582,028	712,416	554,366	564,574	441,745	— 122,829
	$	1,716,271	2,936,719	2,796,171	2,048,746	1,522,680	— 526,066
Maquereau	qtx.	156,075	167,067	196,781	229,877	142,347	— 87,530
	$	924,746	1,333,354	1,937,211	2,035,849	1,126,703	— 909,146
Doré	qtx.	105,428	86,425	70,088	85,644	95,678	+ 10,034
	$	871,719	650,632	649,180	750,163	868,048	+ 117,885
Sardine	brl.	315,832	274,359	295,770	214,525	196,649	— 17,876
	$	1,481,261	1,910,705	2,320,513	830,074	860,268	+ 30,194
Eperlan	qtx.	68,629	73,153	87,555	75,271	58,118	— 17,153
	$	847,357	1,027,555	971,206	835,195	789,361	— 45,834
Truite	qtx.	88,071	75,662	86,608	68,670	55,763	— 12,907
	$	741,610	699,950	808,770	862,966	708,633	— 154,333
Sprat	qtx.	.....	1,363	72,723	65,624	88,050	+ 22,426
	$	.....	11,810	413,853	371,871	540,265	+ 168,394
Merluche et lingue	qtx.	385,953	321,605	245,051	244,749	175,719	— 69,030
	$	757,456	890,265	844,565	645,570	361,446	— 284,124
Merlan	qtx.	143,306	189,908	164,502	227,963	141,302	— 86,661
	$	268,756	486,195	574,832	602,264	295,102	— 307,162
Brochet	qtx.	73,993	79,383	60,100	58,163	43,691	— 14,472
	$	404,453	429,396	403,514	327,675	264,896	— 62,779
Tullipi	qtx.	58,537	64,910	74,411	49,457	38,588	— 10,869
	$	301,060	333,686	324,022	268,999	246,319	— 22,680
Gasparot	qtx.	80,020	98,277	78,616	70,577	65,384	— 5,193
	$	117,083	196,482	237,994	231,200	209,603	— 21,597
Perche	qtx.	22,773	24,707	27,886	18,547	20,976	+ 2,429
	$	114,656	126,723	150,608	185,257	206,685	+ 21,428
Cabillaud (morue noire)	qtx.	[3].....	[3].....	29,966	10,527	25,783	+ 15,256
	$	.....	.....	285,034	116,580	181,202	+ 64,622
Clovisses et mactres	brl.	54,942	55,655	40,554	36,446	26,143	— 10,303
	$	195,805	222,965	169,799	160,125	147,409	— 12,716
Huîtres	brl.	18,361	13,632	13,916	14,565	14,526	— 39
	$	147,751	109,265	123,570	153,276	146,863	— 6,413

[1]Poisson pris et amené à terre. [2]Poisson mis en vente. [3]Compris avec morue.

LA SAISON DE PÊCHE EN 1920

Pendant les quatre premiers mois de l'année, le froid et les tempêtes ont sévi, spécialement sur le littoral de l'Atlantique, causant une grande perturbation dans les opérations de pêche; deux chalutiers à vapeur ont été entièrement perdus et une grande quantité d'agrès de pêche ont été soit détruits, soit endommagés.

Le fait le plus saillant qui se dégage des opérations de l'année, c'est la très importante diminution qui atteint la morue, l'églefin, la merluche et le merlan. Cette réduction est attribuable non pas à la rareté du poisson, mais plutôt à la stagnation du commerce et à la baisse sensible des prix, circonstances qui ont amené de nombreux pêcheurs à cesser leurs travaux. La plus grande partie des quatre espèces de poisson ci-dessus est ouverte, salée et séchée pour la consommation, surtout sur les marchés étrangers, lesquels sont également approvisionnés par Terre-Neuve, les Etats-Unis, la Norvège, la Grande-Bretagne et la France. Pendant la guerre, la Grande-Bretagne et la France avaient complètement abandonné la pêche et la Norvège aussi, dans une moindre mesure, ce qui eut pour effet de faire hausser les prix à un niveau anormal. Mais le chaos dans lequel est tombé le commerce de l'univers après la guerre et la reprise des opérations de pêche par les flottilles européennes ont temporairement supprimé tout débouché à ce produit et fait tomber les prix à un tel degré, que les pêcheurs ne se soucient plus de continuer des opérations si peu rémunératrices.

La pêche du saumon sur le littoral du Pacifique fut inférieure à celle de l'année précédente; on doit l'attribuer principalement à la diminution de la consommation des variétés les moins recherchées, telles que le saumon rose et le saumon bécard. Depuis la fin de la guerre, on a éprouvé des difficultés à se débarrasser de grandes quantités de ces espèces à bon marché; c'est pourquoi, les usiniers n'ont pas mis en boîte une aussi grande quantité que la saison dernière. Sur la côte de l'Atlantique, la pêche du saumon, lequel est exclusivement consommé frais, fut considérablement inférieure à celle de l'année précédente.

La pêche du hareng présente une grande augmentation, principalement sur la côte du Pacifique, où ce poisson fut extrêmement abondant dans les premiers mois de l'année.

Pendant toute la durée de la saison, la pêche du homard sur le littoral de l'Atlantique a donné de bons résultats; la pêche a été fructueuse tout le long de la côte.

La pêche du maquereau ne fut pas aussi bonne que l'an dernier, principalement à cause du mauvais temps qui régna au commencement de l'été, et qui éloigna les bancs de maquereaux des rivages de la Nouvelle-Ecosse. On constate une décroissance dans la pêche du flétan sur la côte de l'Atlantique, mais au contraire, la quantité prise sur le littoral du Pacifique fut considérablement accrue, nonobstant une interruption des opérations de pêche, due au manque de wagons réfrigérateurs à Prince Rupert.

La pêche de la sardine dans la Baie de Fundy fut encore mauvaise; d'autre part, les prix étaient si minimes qu'ils décourageaient les pêcheurs. Cette industrie ne s'est pas encore relevée du rude choc qui lui a été porté par la cessation de la demande, qui se produisit à la fin de la guerre.

La pêche de l'éperlan, qui se pratique essentiellement le long de la rive sud de l'estuaire du Saint-Laurent, a été un peu moins fructueuse que celle de l'an passé. Quant aux autres espèces de poisson de mer, c'est-à-dire les moins importantes, on constate peu de variations.

Dans l'Alberta, la Saskatchewan et le Manitoba, la pêche n'a pas été aussi bonne que l'année précédente. D'abord, les pêcheurs étaient en nombre plus restreint, et puis la formation tardive de la glace sur les lacs, et enfin l'absence de neige ont contrarié sensiblement les opérations de pêche dans les régions les plus éloignées, qui sont précisément celles où la pêche en hiver est la plus fructueuse. Toutefois, les prix ont été un peu plus élevés que l'an dernier.

Résumé de la production, 1920

Le tableau suivant donne un exposé, pour l'ensemble du Canada, de tout le poisson pris et mis sur le marché, pendant l'année 1920. On y trouvera d'abord la totalité de la valeur des prises de chaque espèce aux navires ou vaisseaux; puis, un relevé indiquant sous quelle forme chacune de ces espèces a été mise sur le marché et sa valeur.

2. Quantité et valeur de tout le poisson pêché et mis en vente au Canada, durant l'année 1920

Espèces		Pêcheries maritimes	
		Quantité	Valeur
			$
Morue, prise	qtx	**1,982,706**	**5,232,831**
Mise en vente:			
Fraîche..	qtx	118,755	702,667
En saumure..	qtx	167,840	932,173
Filets fumés.	qtx.	38,055	436,778
Fumée	qtx	278	3,810
Séchée	qtx	444,776	3,809,470
Désossée..	qtx	25,547	344,215
En boîte.	caisses	3,481	29,348
Frai de morue.	qtx	40	400
Huile de foie médicinale	gallon	11,049	11,310
Total, valeur marchande ...			6,270,171
Eglefin, pris	qtx	**441,745**	**878,911**
Mis en vente:			
Frais..	qtx	107,500	455,647
En boîte.	caisses	17,020	129,654
Désossé.	qtx	136	1,780
Fumé...	qtx	67,750	623,214
En saumure	qtx	25,433	74,440
Séché	qtx	38,835	237,945
Total, valeur marchande..			1,522,680
Merluche et lingue, pris..	qtx	**175,719**	**222,037**
Mis en vente:			
Frais..	qtx	3,589	10,357
En saumure	qtx	40,705	114,679
Fumé	qtx	150	1,200
Filets fumés.	qtx	2,606	33,385
Séché ...	qtx	27,370	199,015
Désossé	qtx	347	2,810
Total, valeur marchande.			361,446
Merlan, pris	qtx	**141,302**	**207,665**
Mis en vente:			
Frais..	qtx	11,960	26,821
En saumure	qtx	17,215	54,727
Filets fumés	qtx	2,630	34,055
Séché	qtx	29,131	179,499
Total, valeur marchande		..	295,102
Colin, pris	qtx	**36**	**198**
Mis en vente frais.	qtx	36	274
Langues et nques, marinées ou séchées		1,144	10,025
Flétan, pris...	qtx	**262,726**	**3,553,969**
Mis en vente:			
Frais..	qtx	262,434	4,533,650
En boîte.	caisses	41	410
Fumé.	qtx	77	1,128
Total, valeur marchande.			4,535,188
Carrelet, barbue, plie, etc., pris	qtx	**11,732**	**31,721**
Mis en vente frais.	qtx	14,695	70,834
Raie, prise	qtx	**1,448**	**3,163**
Mise en vente fraîche	qtx	1,448	5,278
Sole, prise	qtx	**2,374**	**12,189**
Mise en vente fraîche	qtx	2,374	20,012
Hareng[1], pris	qtx	**1,936,479**	**1,656,331**
Mis en vente:			
Frais.	qtx	94,771	206,656
Désossé	qtx	611	6,670
Mis en boîte.	caisses	33,769	200,368
Fumé	qtx	148,304	590,132
Salé à sec.	qtx	512,168	872,107
Mariné	brl.	47,038	308,725
Utilisé comme boëtte..	brl.	182,675	361,349
Utilisé comme engrais...	brl.	73,729	86,187
Total, valeur marchande...		..	2,632,194

[1]Voir aussi pêcheries intérieures.

2. Quantité et valeur de tout le poisson pêché et mis en vente au Canada, durant l'année 1920—*suite*

Espèces		Pêcheries maritimes	
		Quantité	Valeur
			$
Maquereau, pris	qtx	**142,347**	**783,304**
Mis en vente:			
Frais	qtx	61,444	631,144
En boîte	caisses	1,869	12,535
Salé	brl.	26,144	483,024
Total, valeur marchande			1,126,703
Sprat, pris	qtx	**88,050**	**77,097**
Mis en vente:			
Frais	qtx	553	1,212
En boîte	caisses	91,929	503,937
Salé	brl.	1,154	6,925
Utilisé comme boëtte	brl.	9,937	28,191
Total, valeur marchande			540,265
Sardine, prise	brl.	**196,649**	**281,848**
Mise en vente:			
En boîte	caisses	129,925	627,972
Fraîche et salée	brl.	164,101	232,296
Total, valeur marchande			860,268
Perche[1], prise	qtx	**2,021**	**12,965**
Mise en vente fraîche	qtx	2,021	16,437
Gasparot[1], pris	qtx	**64,552**	**121,040**
Mis en vente:			
Frais	qtx	12,057	30,870
Salé	brl.	17,143	155,809
Fumé	qtx	2,499	20,198
Total, valeur marchande			206,877
Bar[1], pris	qtx.	**779**	**6,119**
Mis en vente frais	qtx	779	6,857
Saumon[1], pris	qtx	**1,282,023**	**8,192,011**
Mis en vente:			
Frais	qtx	216,865	2,750,351
En boîte	caisses	1,188,599	12,419,034
Fumé	qtx	2,667	23,131
Salé à sec	qtx	33,645	151,129
Préparé au lait	qtx	8,924	205,734
Mariné	qtx	526	5,011
Total, valeur marchande			15,554,390
Alose[1], prise	qtx	**408**	**5,493**
Mise en vente frais	qtx	408	5,961
Eperlan[1], pris	qtx	**58,056**	**517,568**
Mis en vente frais	qtx	58,056	788,617
Esturgeon[1], pris	qtx	**338**	**3,758**
Mis en vente	qtx	338	5,470
Truite[1], prise	qtx	**884**	**15,032**
Mise en vente fraîche	qtx	884	15,771
Cabilland, pris	qtx	**25,783**	**149,626**
Mis en vente:			
Frais	qtx	11,369	70,110
En saumure	qtx	42	409
Fumé	qtx	7,164	110,683
Total valeur marchande			181,202
Morue, rouge, etc., prise	qtx	**3,892**	**13,365**
Mise en vente:			
Fraîche	qtx	3,816	19,574
Fumée	qtx	38	442
Total, valeur marchande			20,016
Baulie, prise	qtx	**1,542**	**9,615**
Mise en vente fraîche	qtx	1,542	10,587

[1]Voir aussi pêcheries intérieures.

2. Quantité et valeur de tout le poisson pêché et mis en vente au Canada, durant l'année 1920—*suite*

Espèces		Pêcheries maritimes	
		Quantité	Valeur
			$
Capelan, pris	brl.	7,865	13,535
Mis en vente frais	brl.	7,865	17,090
Anguille,[1] prise	qtx	2,256	18,850
Mise en vente fraîche	qtx	2,256	22,037
Roussette ou chien de mer, pris[2]	qtx	15,000	4,550
Poulpe, prise	qtx	391	2,646
Mise en vente fraîche	qtx	394	4,082
Oulachon, pris	qtx	2,115	8,575
Mis en vente frais	qtx	2,115	9,096
Encornet, pris	brl.	4,950	12,188
Mis en vente frais	qtx	4,950	12,280
Espadon, pris	qtx	3,351	41,246
Mis en vente frais	qtx	3,351	51,104
Tacaud (petite morue), prise	qtx	8,247	15,837
Mise en vente fraîche	qtx	8,247	31,015
Poissons divers[1] (à l'exclusion de toutes les espèces ci-dessus énumérées)	qtx	1,591	1,796
Mis en vente frais	qtx	1,591	2,116
Clovisses et martres, prises	brl.	26,143	59,704
Mises en vente:			
Fraîches	brl.	8,986	33,383
En boîte	caisses	17,195	114,026
Total, valeur marchande			147,409
Bucardes, prises	qtx	214	657
Mises en vente fraîches	qtx	214	657
Crabes, pris	qtx	10,660	33,135
Mis en vente frais	qtx	10,660	58,263
Homards, pris	qtx	399,985	4,557,149
Mis en vente:			
Vivant	qtx	69,000	1,434,638
En boîte	caisses	163,299	5,687,484
Foie de	caisses	2,619	30,333
Total, valeur marchande			7,152,455
Moules, prises	qtx	172	121
Mises en vente fraîches	qtx	172	121
Huîtres, prises	brl.	11,526	126,894
Mises en vente fraîches	brl.	14,526	146,863
Pétoncles, pris	brl.	4,186	23,623
Mis en vente, écaillés	gallon	8,131	28,848
Crevettes, prises	qtx	563	6,735
Mises en vente fraîches	qtx	563	13,536
Bigorneaux (ou littorines), pris	qtx	1,915	2,919
Mis en vente frais	qtx	1,915	2,919
Phoques à fourrures, pris	nomb.	1,058	20,542
Peaux vendues	nomb.	1,058	24,712
Phoques communs, pris	nomb.	1,891	11,146
Peaux vendues	nomb.	4,891	14,699
Huile	gall.	12,598	12,598
Total, valeur marchande			27,207
Baleines, prises	nomb.	493	85,800
Fanons	tonnes	503	15,090
Engrais	tonnes	1,033	82,630
Huile	gall.	604,070	338,026
Total, valeur marchande			435,746

[1]Voir aussi pêcheries intérieures.
[2]La presque totalité de ce poisson sert à la fabrication d'huile de poisson et d'engrais.

2. Quantité et valeur de tout le poisson pêché et mis en vente au Canada, durant l'année 1920—*suite*

Espèces		Pêcheries maritimes	
		Quantité	Valeur
			$
Marsouins,[1] pris	nomb.	**186**	**4,650**
Peaux mises en vente	nomb.	186	2,790
Huile	gall.	3,720	3,720
Total, valeur marchande		..	6,510
Huile de poisson	gall.	342,686	279,885
Entrailles de poisson	tonnes	2,076	7,515
Os de branchies	qtx	9,100	3,579
Peaux de poisson	qtx	6,260	16,069
Engrais	tonnes	580	38,230
Valeur totale des pêcheries maritimes—			
Valeur des prises		...	27,046,160
Valeur marchande		..	43,602,059
[1]Voir aussi pêcheries intérieures.		**Pêcheries intérieures**	
Gasparot[1]	qtx	**832**	**2,496**
Mis en vente:			
Frais	qtx	142	426
Salé	brl.	230	2,300
Total, valeur marchande			2,726
Achigan,[1] pris	qtx	**360**	**5,575**
Mis en vente frais	qtx	360	5,666
Carpe, prise	qtx	**11,900**	**51,611**
Mise en vente fraîche	qtx	11,900	52,637
Barbotte, prise	qtx	**6,263**	**41,041**
Mise en vente fraîche	qtz	6,263	46,813
Anguille,[1] prise	qtx	**7,885**	**71,110**
Mise en vente fraîche	qtx	7,885	84,675
Œils-d'or, pris	qtx	**4,613**	**15,503**
Mis en vente:			
Frais	qtx	2,123	10,685
Fumé	qtx	1,245	22,829
Total, valeur marchande		..	33,514
Hareng,[1] pris	qtx	**136,244**	**677,920**
Mis en vente:			
Frais	qtx	126,673	758,178
Salé	brl.	6,321	37,926
Total, valeur marchande		...	796,104
Maskinongé, pris	qtx	**4**	**78**
Mis en vente frais	qtx	4	78
Poissons divers[1] (gade, chabot, ouananiche, etc.), pris	qtx	**36,261**	**156,400**
Mis en vente frais	qtx	35,718	160,298
Mulet, pris	qtx	**24,183**	**39,133**
Mis en vente frais	qtx	24,183	62,116
Perche[1] (perchaude), prise	qtx	**18,955**	**153,119**
Mise en vente fraîche	qtx	18,955	190,248
Doré, pris	qtx	**61,883**	**469,190**
Mis en vente frais	qtx	61,883	631,483
Doré, bleu, pris	qtx	**33,795**	**202,770**
Mis en vente frais	qtx	33,795	236,565
Brochet, pris	qtx	**43,691**	**177,655**
Mis en vente frais	qtx	43,691	264,896

[1]Voir aussi pêcheries maritimes

2. Quantité et valeur de tout le poisson pêché et mis en vente, au Canada, durant l'année 1920—*fin*

Espèces		Pêcheries intérieures	
		Quantité	Valeur
			$
Maroulins,[1] pris	nomb.	71	3,700
Mis en vente frais	nomb.	74	4,440
Saumon,[1] pris	qtx	2,706	41,061
Mis en vente frais	qtx	2,706	41,580
Alose,[1] prise	qtx	1,048	10,451
Mise en vente fraîche	qtx	1,048	12,704
Eperlan,[1] pris	qtx	62	620
Mis en vente frais	qtx	62	744
Esturgeon,[1] pris	qtx	3,035	41,828
Mis en vente frais	qtx	3,035	50,901
Vessies	nomb.	438	219
Caviar	liv.	6,050	6,393
Total, valeur marchande			57,513
Truite,[1] prise	qtx	51,879	537,167
Mise en vente:			
Fraîche	qtx	51,489	663,482
Salée	brl	2,260	29,380
Total, valeur marchande			692,862
Tullipi, pris	qtx	38,588	205,117
Mis en vente:			
Frais	qtx	38,514	245,644
Fumé	qtx	37	675
Total, valeur marchande			246,319
Ablette (poisson blanc), prise	qtx	181,761	1,315,932
Mise en vente:			
Fraîche	qtx	176,516	1,969,812
Salée	brl	3,499	45,487
Total, valeur marchande			2,015,299
Valeur totale des pêcheries intérieures			
Valeur des prises			4,219,510
Valeur marchande			5,639,280
Valeur totale de toutes les pêcheries:			
Valeur des prises			31,265,670
Valeur marchande			49,241,339

[1]Voir aussi pêcheries maritimes.

Moyens de production: Capital, pêche proprement dite, main-d'œuvre, etc.

(1) *Opérations préliminaires:*

Capital.—En 1920, le capital absorbé par les vaisseaux, barques, pièges, quais, congélateurs, etc., affectés aux opérations de pêche proprement dites et au débarquement du poisson, était de $29,893,213, comparé à $31,493,152 en 1919 et $29,887,734 en 1918. (Tableau 3).

Main-d'œuvre.—Le nombre des employés engagés dans les opérations de pêche en 1920, était de 57,197 au lieu de 67,804 en 1919 et 68,516 en 1918. (Tableau 4).

(2) *Etablissements de préparation et de mise en boîte du poisson:*

Capital.—Les capitaux engagés dans les établissements de préparation et de mise en boîte du poisson s'élevaient à $20,512,265 contre $23,200,874 en 1919 et $30,334,129 en 1918. (Tableau 5).

Personnel.—Le nombre des employés dans ces mêmes établissements de l'industrie poissonnière était de 18,499 au lieu de 18,356 en 1919 et 18,554 en 1918. (Tableau 6).

3. Matériel et agrès de pêche. Valeur des vaisseaux et barques de pêche, filets, pièges, quais, etc., employés dans les pêcheries canadiennes en 1918, 1919 et 1920

—	Pêcheries maritimes					
	1918		1919		1920	
	Nombre	Valeur	Nombre	Valeur	Nombre	Valeur
		$		$		$
Chalutiers à vapeur	2	140,000	10	1,075,000	9	850,000
Bateaux de pêche à vapeur	39	1,049,293	27	551,000	31	688,800
Voiliers et embarcations à gazoline	1,230	4,721,200	1,191	5,243,795	1,046	5,783,914
Chaloupes (à rames et à voiles)	19,059	1,039,972	16,874	925,755	12,320	821,660
Chaloupes (à gazoline)	13,990	4,963,197	15,361	5,430,046	14,611	6,011,490
Semaques	841	473,080	529	575,975	299	348,260
Rets à mailles, seines, pièges et trappes, filets à éperlan	149,757	4,395,787	144,605	4,306,899	94,158	4,544,019
Nasses	792	1,154,820	808	1,008,140	1,054	774,380
Chaluts	33,957	577,093	27,062	567,257	26,599	497,294
Lignes à main	76,351	118,590	76,761	134,431	63,029	119,534
Pièges à crabes	3,510	17,550	4,000	24,000	4,500	27,000
Etablissements d'ostréiculture et aménagement	1	20,500	1	20,500	1	19,360
Casiers à homard	1,243,415	1,527,699	1,203,571	1,744,261	1,290,639	1,879,619
Jetées et quais de pêche	2,581	2,091,407	2,773	2,031,570	2,617	1,375,650
Congélateurs et glacières	807	2,440,260	827	2,354,635	640	670,469
Petites poissonneries	8,767	1,353,025	8,092	1,312,948	7,524	1,095,605
Valeur totale	–	**26,083,473**	–	**27,306,212**	–	**25,507,054**

—	Pêcheries intérieures					
	1918		1919		1920	
	Nombre	Valeur	Nombre	Valeur	Nombre	Valeur
		$		$		$
Bateaux à vapeur ou remorqueurs	146	880,395	145	898,365	142	993,357
Chaloupes (à voiles et à rames)	4,020	156,677	2,675	171,212	2,280	148,968
Chaloupes (à gazoline)	916	426,712	995	484,107	1,012	529,621
Rets à mailles	–	1,082,700	–	1,119,721	–	1,240,746
Seines	613	31,649	542	35,362	426	34,305
Filets à enclos	1,359	625,914	1,205	780,245	1,108	777,107
Seines à cercle	1,287	48,366	2,582	70,018	2,282	95,037
Lignes	1,020	5,194	1,024	6,292	1,016	7,282
Nasses	976	55,737	396	47,080	321	41,058
Môles et quais	315	102,773	316	146,350	341	127,818
Congélateurs et glacières	846	362,176	715	402,624	600	359,905
Petites poissonneries	140	24,555	139	24,615	93	23,170
Pièges à anguilles	100	200	10	30	175	525
Pièges tournants	3	355	2	250	4	850
Harpons	269	858	199	669	122	410
Valeur totale	–	**3,801,261**	–	**4,186,940**	–	**4,386,159**

4. Personnel occupé aux opérations de pêche en 1918, 1919 et 1920

—	Pêcheries maritimes			Pêcheries intérieures		
	1918	1919	1920	1918	1919	1920
	nombre	nombre	nombre	nombre	nombre	nombre
Hommes employés:						
A bord des chalutiers à vapeur	34	200	206	–	–	–
A bord des navires	7,690	7,821	6,858	944	887	854
A bord des chaloupes	49,698	49,994	41,992	7,027	5,416	4,888
A bord des semaques	1,385	870	538	–	–	–
Pêcheurs sans embarcation	–	–	–	1,738	2,616	1,861
Total	**58,807**	**58,885**	**49,591**	**9,709**	**8,919**	**7,603**

5. Capital d'exploitation[1] des établissements de préparation et de mise en boite du poisson en 1918, 1919 et 1920.

Nomenclature	1918		1919		1920	
	Nombre d'établissements	Valeur	Nombre d'établissements	Valeur	Nombre d'établissements	Valeur
		$		$		$
Homarderies	534	2,977,188	520	2,031,409	578	2,426,920
Saumoneries	81	15,619,857	76	13,961,100	67	10,072,356
Etablissements de conserves et mollusques	14	152,275	13	1,131,228	9	90,449
Sardineries	3	1,288,486	1		8	750,204
Fabriques d'huile de baleine	5	1,118,040	10	1,475,121	11	1,558,147
Etablissements de fumage, salaison, etc.	302	9,178,283	308	4,602,016	267	5,614,189
Total	**939**	**30,334,129**	**928**	**23,200,874**	**940**	**20,512,265**

[1]Y compris la valeur des terrains, bâtiments et installations, machineries et outillage, matières premières en stock, combustible, caisse, factures à recouvrer et billets à recevoir.

6. Personnel des établissements de préparation et de mise en boite du poisson en 1918, 1919 et 1920

Enumération	1918			1919			1920		
	Hommes	Femmes	Total	Hommes	Femmes	Total	Hommes	Femmes	Total
	nomb.	nomb.	nomb.	nomb.	nomb.	nomb.	nomb.	nomb.	nomb.
Personnes employées dans les:—									
Homarderies	3,483	3,133	6,616	3,730	3,516	7,246	4,280	4,001	8,281
Saumoneries	5,251	2,644	7,895	4,582	2,415	6,997	4,266	2,056	6,322
Etablissements de préparation des mollusques	110	144	254	339	384	723	57	105	162
Sardineries	182	343	525				431	324	755
Huileries (baleines et autres poissons)	211	1	212	377	8	385	229	7	236
Etablissements de fumage, salaison, etc.	2,658	394	3,052	2,527	478	3,005	2,452	291	2,743
Total	**11,895**	**6,659**	**18,554**	**11,555**	**6,801**	**18,356**	**11,715**	**6,784**	**18,499**

Autres données concernant les opérations des établissements industriels

Sur les 940 établissements en activité pendant l'année 1920, 481 étaient exploités par des propriétaires individuels, 204 par des sociétés en nom collectif, 248 par des compagnies en commandite et 7 par des sociétés coopératives. La classification de ces établissements par rapport à la main-d'œuvre qu'ils emploient, démontre que 655 d'entre eux font travailler une moyenne de cinq personnes et plus, tandis que les 222 autres emploient moins de cinq personnes. Soixante-trois petits établissements se sont dispensés de toute main-d'œuvre en 1920, leurs propriétaires suffisant au travail.

Employés, ouvriers, appointements et salaires.—Les employés et ouvriers des établissements industriels, en l'année 1920, s'élevaient à 18,499 personnes, dont les gains ont atteint $4,856,290. Parmi ce nombre, 651 étaient des employés recevant des traitements ou appointements, 13,137 étaient des ouvriers ou journaliers et 4,711 travaillant à l'entreprise ou aux pièces; les premiers ont reçu $759,176, les seconds $3,180,701 et les derniers $916,413. En Colombie Britannique, la majorité des ouvriers des fabriques de conserve de poisson sont placés sous un régime spécial, l'entrepreneur engageant et payant directement sa main-d'œuvre et étant lui-même payé par le fabricant selon la quantité de poisson mis en boîte par son équipe. En ce qui concerne ces derniers et les ouvriers aux pièces, on ne possède d'autres informations que leur nombre et le chiffre total de leur rémunération. On trouvera dans le tableau 7 le nombre et les gains des différentes personnes employées sous ces trois classifications en 1918, 1919, et 1920.

7. Personnel des établissements de préparation et de mise en boîte du poisson, en 1918, 1919 et 1920—Appointements et salaires

Année	Employés recevant des appointements		Ouvriers et journaliers		Ouvriers à l'entreprise ou aux pièces		Total, personnel, appointements et salaires	
	nombre	$	nombre	$	nombre	$	nombre	$
1918	615	699,681	12,558	2,866,761	5,381	1,073,149	18,554	4,639,591
1919	679	694,315	12,883	2,749,210	4,794	814,286	18,356	4,257,811
1920	651	759,176	13,137	3,180,701	4,711	916,413	18,499	4,856,290

Personnel occupé par mois.(1)—Le tableau qui suit est un relevé du nombre du personnel des manufactures pendant chaque mois de l'année 1920, avec les chiffres comparatifs de 1918 et 1920.

8. Personnel des établissements de préparation et de mise en boîte du poisson(1)—Nombre sur la liste de paie le 15 de chaque mois, en 1918, 1919 et 1920

Mois	1918			1919			1920		
	Hommes	Femmes	Total	Hommes	Femmes	Total	Hommes	Femmes	Total
	nombre	nombre	nombre	nombre	nombre	nombre	nombre	nombre	nombre
Janvier	1,640	258	1,898	1,109	253	1,362	1,245	183	1,428
Février	1,535	219	1,754	999	185	1,184	1,135	119	1,254
Mars	1,920	257	2,177	1,292	238	1,530	1,672	262	1,934
Avril	3,377	648	4,025	3,377	812	4,189	4,734	1,447	6,181
Mai	6,875	3,332	10,207	6,544	3,656	10,200	7,221	3,983	11,204
Juin	7,426	3,394	10,820	6,892	3,430	10,322	7,204	3,698	10,902
Juillet	5,703	1,769	7,472	4,778	1,231	6,009	4,445	1,099	5,544
Août	5,108	1,084	6,192	4,434	857	5,291	3,868	690	4,558
Septembre	4,671	879	5,550	4,371	981	5,352	3,363	585	3,948
Octobre	4,009	765	4,774	3,700	834	4,534	2,607	513	3,120
Novembre	3,279	694	3,973	2,408	478	2,886	1,785	235	2,020
Décembre	1,992	306	2,298	1,477	248	1,725	1,441	176	1,617

(1) A l'exclusion des ouvriers à l'entreprise ou aux pièces.

Salaire quotidien.—Le tableau 9 classifie les ouvriers et journaliers des manufactures, selon leur salaire quotidien, en 1919 et 1920. Il n'y a pas de comparaison possible avec l'année précédente, parce qu'en 1918 on avait relevé le salaire hebdomadaire.

9. Personnel[1] des établissements de préparation et de mise en boîte du poisson, en 1919 et 1920, selon leur salaire quotidien

Salaire quotidien	Employés					
	1919			1920		
	Hommes	Femmes	Total	Hommes	Femmes	Total
	nombre	nombre	nombre	nombre	nombre	nombre
Moins de $1 par jour	241	1,325	1,566	208	1,052	1,260
$1 mais moins de $2	2,182	2,572	4,754	1,703	2,939	4,642
$2 mais moins de $3	3,221	547	3,768	3,043	635	3,678
$3 mais moins de $4	1,667	70	1,737	2,013	123	2,136
$4 mais moins de $5	703	19	722	797	2	799
$5 et plus	336	–	336	622	–	622
Total	**8,350**	**1,533**	**12,883**	**8,386**	**1,751**	**13,137**

[1] A l'exclusion des ouvriers travaillant à l'entreprise et aux pièces.

Durée des opérations—Il résulte de la classification opérée au point de vue de la durée des opérations que 383 établissements sont restés ouverts pendant moins de 60 jours; que 304 ont travaillé entre 60 et 119 jours; 117 entre 120 et 179; 66 entre 180 et 239 jours; enfin 70 ont poursuivi leurs opérations pendant 240 jours et plus.

Combustible.—On estime à $581,520 le combustible consommé en 1920 par ces établissements. Le charbon représente une valeur de $344,863, la gazoline $106,664.

Force motrice utilisée.—En 1920, les moteurs à gazoline et les machines à vapeur ont fourni la majeure partie de la force motrice. Les premiers, au nombre de 580 donnèrent 3,211 chevaux-vapeur et les derniers au nombre de 168, produisirent 2,799 chevaux-vapeur. On comptait aussi 58 moteurs électriques représentant 882 chevaux-vapeur, 51 roues hydrauliques et turbines de 950 chevaux-vapeur. Les machines à vapeur, moteurs, roues hydrauliques, turbines et autres non spécifiées formaient en tout 872 unités avec un total de 8,053 chevaux-vapeur.

Frais généraux.—Le total des frais généraux s'est élevé à $2,326,073 en 1920. Ces dépenses comprennent le loyer de bureaux, d'usines et d'outillage, l'achat de force motrice, l'assurance, les taxes, les droits régaliens et l'usage de brevets, les dépenses de publicité et de voyage, les réparations aux bâtiments et à la machinerie et autres dépenses diverses.

Valeur des matières premières.—La valeur totale des matières premières utilisées dans les établissements de préparation et de conservation du poisson était de $19,363,029 se décomposant ainsi: poisson $14,347,089; sel $456,013, récipients $4,229,490, autres matières $330,437.

Valeur des produits.—On évalue à $30,900,147 les produits sortis des établissements de préparation et de mise en boîte du poisson. Dans ce total le poisson en boîte, séché, fumé, ou autrement préparé, entre pour $25,807,973 et le poisson vendu frais pour $5,092,174. Les chiffres des années 1918, 1919, 1920 sont indiqués dans le tableau suivant.

10. Valeur des produits sortis des établissements de préparation et de mise en boîte du poisson en 1918, 1919 et 1920

Nomenclature.	1918		1919		1920	
	Poisson vendu frais	Poisson en boîte ou autrement préparé	Poisson vendu frais	Poisson en boîte ou autrement préparé	Poisson vendu frais	Poisson en boîte ou autrement préparé
	$	$	$	$	$	$
Homarderies	642,820	3,510,640	495,636	5,304,681	552,727	6,329,861
Saumoneries	148,715	15,315,299	1,620,866	14,751,031	156,843	13,433,007
Etablissements de conserve de mollusques	34,973	207,635	182,519	1,121,312	–	131,772
Sardineries	–	1,240,488			111,434	944,981
Huileries (baleines et autres poissons)	–	1,003,759	–	708,052	–	565,835
Etablissements de fumage, salaison, etc.	4,748,496	7,154,803	2,368,020	5,620,636	4,271,170	4,402,517
Totaux	5,575,001	28,432,624	4,667,041	27,505,712	5,092,174	25,807,973

Classification des établissements par importance de leur production.—Les statistiques nous montrent que la production de 363 établissements était inférieure à $5,000, que la production de 164 établissements valait entre $5,000 et $10,000; celle de 176 de $10,000 à $20,000; celle de 126 de $20,000 à $50,000 et celle de 111 atteignait $50,000 ou plus. Dans ce dernier groupe, on trouve

62 saumoneries, 17 homarderies, 2 autres établissements de mise en boîte du poisson, 3 huileries (de baleine et de poisson) et 27 établissements de séchage et salaison. Dans un certain nombre des établissements de mise en boîte, on se livre aux opérations de séchage et de salaison du poisson, soit avant l'ouverture, soit après la clôture de la saison de la mise en boîte; parmi ces établissements se trouvent sept saumoneries, sardineries et quatre-vingt-trois homarderies, deux établissements à mollusques. Cinq autres établissements ont ajouté à leur production de mise en boîte celle du séchage et de la salaison, en 1920.

Répartition par provinces

Les cinq tableaux qui suivent (11-15) sont consacrés à la production poissonnière dans les provinces; on y trouve: la valeur totale des pêcheries; la quantité de poisson pris et de poisson vendu, pour les espèces principales; la quantité et la valeur de tout le poisson pris et vendu; la quantité du poisson de mer pêché en haute mer et enfin la valeur du matériel de pêche.

11. Valeur des pêcheries, par provinces, de 1916 à 1920, par ordre de leur importance, en 1920

	Valeur des pêcheries					Augm. ou dimin. en 1920 sur 1919 (Augm. +, dimin. −)
	1916	1917	1918	1919	1920	
	$	$	$	$	$	$
Colombie Britannique	14,637,346	21,518,595	27,282,223	25,301,607	22,329,161	− 2,972,446
Nouvelle-Ecosse	10,092,902	14,468,319	15,143,066	15,171,929	12,742,659	− 2,429,270
Nouveau-Brunswick	5,656,859	6,143,088	6,298,990	4,979,574	4,423,745	− 555,829
Ontario	2,658,993	2,866,419	3,175,111	3,410,750	3,336,412	− 74,338
Québec	2,991,624	3,414,378	4,568,773	4,258,731	2,592,382	− 1,666,349
Ile du Prince-Edouard	1,344,179	1,786,310	1,148,201	1,536,844	1,708,723	+ 171,879
Manitoba	1,390,002	1,543,288	1,830,435	1,031,117	1,249,607	+ 218,490
Alberta	144,317	184,009	318,913	333,330	529,078	+ 195,748
Saskatchewan	231,946	320,238	447,012	475,797	296,472	− 179,325
Territoire du Yukon	60,210	67,400	37,820	8,800	33,100	+ 24,300
Totaux	**39,208,378**	**52,312,044**	**60,250,544**	**56,508,479**	**49,241,339**	**− 7,267,140**

12. Quantité des principaux poissons dont on fait commerce, et leur valeur par provinces, 1916-1920

ILE DU PRINCE-EDOUARD

Espèces		1916	1917	1918	1919	1920	Augm. ou Dimin. en 1920 sur 1919 (Augm. + Dimin. −)
Homard	qtx.	111,289	124,103	49,307	64,936	83,194	+ 18,258
	$	967,610	1,241,456	576,154	1,070,211	1,381,534	+ 311,323
Eperlan	qtx.	5,744	6,401	6,459	8,599	10,906	+ 2,307
	$	40,208	53,984	42,296	61,165	121,810	+ 60,645
Morue	qtx.	58,793	70,830	48,717	39,616	22,905	− 16,711
	$	146,419	260,754	202,398	150,534	67,321	− 83,213
Hareng	qtx.	15,928	21,886	23,707	30,110	31,911	+ 1,801
	$	20,146	37,865	35,833	67,431	50,259	− 17,172
Maquereau	qtx.	8,457	3,767	11,822	11,788	5,880	− 5,908
	$	43,362	22,555	99,080	76,290	33,864	− 42,426
Huîtres	brl.	6,431	3,038	3,375	3,392	2,775	− 617
	$	46,946	22,207	29,444	32,112	25,325	− 6,787
Merluche et lingue	qtx.	26,235	20,671	25,697	20,473	8,754	− 11,719
	$	50,817	62,803	98,475	58,583	18,225	− 40,358

12. Quantité des principaux poissons dont on fait commerce, et leur valeur par provinces, 1916-1920—*suite*

NOUVELLE-ÉCOSSE

Espèces		1916	1917	1918	1919	1920	Augm. ou dimin. en 1920 sur 1919. (Augm. + Dimin. −)
Morue	qtx.	992,794	1,227,360	1,127,438	1,598,843	1,417,457	− 181,386
	$	2,642,846	4,553,534	5,712,071	6,089,265	4,516,481	− 1,572,784
Homard	qtx.	241,400	219,273	148,871	192,545	213,935	+ 21,390
	$	3,210,520	3,071,171	2,221,931	2,976,477	4,016,553	+ 1,040,076
Eglefin	qtx.	546,729	689,667	527,060	555,433	436,036	− 119,397
	$	1,617,879	2,866,220	2,679,405	2,005,515	1,502,042	− 503,473
Maquereau	qtx.	77,317	125,725	142,754	162,907	81,071	− 81,836
	$	483,000	973,324	1,420,927	1,432,760	726,148	− 706,612
Hareng	qtx.	309,805	339,876	334,674	246,577	235,113	− 11,464
	$	494,478	841,404	1,107,000	612,870	538,754	− 74,116
Flétan	qtx.	18,832	24,877	19,361	31,885	23,580	− 8,305
	$	231,941	336,820	278,136	495,311	424,637	− 70,674
Merluche et lingue	qtx.	243,491	220,452	151,239	112,951	97,320	− 15,631
	$	540,630	658,768	510,020	347,864	241,833	− 106,031
Merlan	qtx.	96,011	124,448	114,194	149,402	96,939	− 52,463
	$	191,481	339,280	467,047	449,399	226,862	− 222,537
Saumon	qtx.	8,550	10,285	8,500	4,533	3,361	− 1,172
	$	150,561	198,947	178,047	104,996	91,214	− 13,782

NOUVEAU-BRUNSWICK

Homard	qtx.	99,455	106,701	42,904	56,480	64,346	+ 7,866
	$	1,048,940	1,095,474	491,396	886,418	1,090,686	+ 204,268
Sardine	brl.	315,810	274,008	295,753	214,510	196,562	− 17,948
	$	1,481,085	1,908,900	2,320,428	829,894	859,598	+ 29,704
Hareng	qtx.	539,339	188,144	247,317	277,193	446,547	+ 169,354
	$	728,086	406,514	544,006	517,108	609,381	+ 92,273
Eperlan	qtx.	55,025	55,703	69,937	54,963	40,041	− 14,922
	$	715,112	834,415	801,244	611,839	565,279	− 46,560
Saumon	qtx.	17,791	15,983	17,452	9,668	11,477	+ 1,809
	$	268,744	242,950	342,911	181,316	275,737	+ 94,421
Morue	qtx.	200,560	158,995	169,564	161,005	86,382	− 74,623
	$	527,005	519,550	610,260	749,715	273,636	− 476,079
Gasparot	qtx.	62,274	83,445	68,539	57,740	54,395	− 3,345
	$	90,796	165,841	215,092	195,352	180,431	− 14,921
Maquereau	qtx	11,407	19,355	15,926	22,392	15,102	− 7,290
	$	134,398	228,417	208,119	267,606	142,235	− 125,371
Merluche et lingue	qtx.	115,727	78,959	65,428	110,145	69,334	− 40,811
	$	165,309	165,127	226,116	235,768	100,133	− 135,635
Clovisses et mactres	qtx.	13,780	27,912	17,955	19,248	11,133	− 8,115
	$	88,606	102,036	73,249	65,563	73,721	+ 8,158
Huîtres	brl.	8,294	6,926	7,188	7,343	8,207	+ 864
	$	58,058	41,556	56,640	73,430	70,942	− 2,488
Merlan	qtx	47,295	65,460	50,308	78,561	44,363	− 34,198
	$	77,275	146,915	167,785	152,865	68,240	− 84,625

12. Quantité des principaux poissons dont on fait commerce, et leur valeur par provinces, 1916-1920—*suite*

QUÉBEC

Espèces.		1916	1917	1918	1919	1920	Augm. ou dimin. en 1920 sur 1919. (Augm. + Dimin.—)
Morue	qtx.	710,713	758,270	816,675	759,982	421,860	— 338,122
	$	1,579,231	2,068,678	3,132,594	2,629,260	1,089,996	— 1,539,264
Homard	qtx.	28,754	24,794	23,014	31,845	38,510	+ 6,665
	$	280,984	246,164	241,623	405,237	663,682	+ 258,445
Maquereau	qtx.	58,894	18,220	26,279	32,790	40,294	+ 7,504
	$	263,986	109,058	209,985	259,193	224,456	— 34,737
Hareng	qtx.	283,440	242,760	529,577	337,139	223,201	— 113,938
	$	271,352	222,342	287,606	345,534	213,169	— 132,365
Saumon	qtx.	15,302	13,532	11,139	5,807	4,927	— 880
	$	103,693	118,794	129,386	62,921	75,671	+ 12,750
Anguilles	qtx.	8,741	6,288	6,355	7,842	6,134	— 1,708
	$	49,716	51,782	40,354	93,318	63,447	— 29,871
Eperlan	qtx.	686	1,921	2,509	2,104	1,872	— 232
	$	3,802	18,740	19,506	24,969	24,904	— 65
Capelan	brl.	22,784	27,769	20,515	24,195	7,835	— 16,360
	$	22,784	41,449	29,955	82,930	17,060	— 65,870

ONTARIO

Poisson blanc ou ablette	qtx.	60,711	49,498	61,587	66,404	69,786	+ 3,382
	$	516,290	474,602	599,316	861,289	884,481	+ 23,192
Hareng	qtx.	106,872	201,801	200,473	118,099	134,594	+ 16,495
	$	526,976	992,909	1,002,359	694,267	788,604	+ 94,337
Truite	qtx.	78,116	62,829	79,075	62,917	51,380	— 11,537
	$	638,888	592,433	729,425	802,659	653,250	— 149,409
Doré (bleu)	qtx.	—	5,647	8,133	23,917	33,795	+ 9,878
	$	—	56,547	81,326	167,419	236,565	+ 69,146
Doré	qtx.	45,418	25,216	17,203	19,220	16,052	— 3,168
	$	454,187	252,232	172,034	259,470	208,676	— 50,794
Perche	qtx.	12,585	15,170	24,282	15,244	17,947	— 2,703
	$	62,926	75,853	121,410	152,440	179,470	+ 27,030
Brochet	qtx.	14,836	15,574	13,868	19,948	12,241	— 7,707
	$	118,690	124,590	110,945	139,636	85,687	— 53,949

MANITOBA.

Poisson blanc ou ablette	qtx.	50,339	52,419	71,280	57,009	43,358	— 13,651
	$	350,543	390,321	703,733	349,811	441,992	+ 92,181
Doré	qtx.	45,298	49,728	39,506	35,802	39,070	+ 3,268
	$	311,262	345,179	350,316	264,741	355,358	+ 90,617
Tullipi	qtx.	49,185	52,646	64,343	38,920	33,386	— 5,534
	$	245,925	263,230	263,856	186,260	201,844	+ 15,584
Brochet	qtx.	41,289	42,013	36,445	30,905	25,535	— 5,370
	$	201,749	208,846	237,757	137,114	137,622	+ 508
Mulet	qtx.	10,802	11,013	19,422	24,397	22,028	— 2,369
	$	21,604	22,026	58,083	44,991	49,514	+ 4,523
Œils-d'or	qtx.	6,466	7,982	5,163	3,245	4,593	+ 1,348
	$	31,610	39,084	29,052	17,570	33,274	+ 15,704
Esturgeon	qtx.	1,819	2,621	1,137	789	397	— 392
	$	20,506	51,080	26,116	10,462	11,516	+ 1,054

12. Quantité des principaux poissons dont on fait commerce, et leur valeur par provinces, 1916-1920—*fin*.

SASKATCHEWAN.

Espèces		1916	1917	1918	1919	1920	Augm. ou dimin. en 1920 sur 1919. (Augm. + Dimin.—)
Poisson blanc ou ablette	qtx.	28,551	43,301	42,508	42,642	24,206	— 18,436
	$	126,758	197,920	341,849	369,220	212,869	— 156,351
Doré	qtx.	4,662	5,831	2,922	3,038	3,646	+ 608
	$	24,883	28,314	22,407	26,877	31,926	+ 5,049
Brochet	qtx.	8,736	9,697	5,128	4,112	3,254	— 858
	$	41,732	45,916	32,214	30,817	23,459	— 7,358
Mulet	qtx.	–	–	4,989	2,436	2,155	— 281
	$	–	–	21,405	14,893	12,602	— 2,291
Truite	qtx.	2,799	3,696	2,510	1,821	912	— 909
	$	14,155	18,594	20,097	17,542	8,492	— 9,050

ALBERTA

Poisson blanc ou ablette	qtx.	21,452	29,792	29,006	30,644	43,941	+ 13,297
	$	90,472	133,573	264,597	257,664	467,918	+ 210,254
Doré	qtx.	3,076	5,239	1,632	2,872	2,461	— 411
	$	11,584	19,996	13,764	20,217	23,594	+ 3,377
Truite	qtx.	984	322	569	1,743	1,930	+ 187
	$	18,543	3,182	5,690	17,430	22,593	+ 5,163
Brochet	qtx.	4,892	7,421	3,986	2,748	2,096	— 652
	$	13,265	19,365	17,883	14,238	11,394	— 2,844

COLOMBIE BRITANNIQUE

Saumon	qtx.	1,196,432	1,601,520	1,493,502	1,668,353	1,262,864	— 405,489
	$	10,343,503	16,828,783	17,207,245	17,537,166	15,129,348	— 2,407,818
Flétan	qtx.	123,062	113,529	186,229	210,777	238,770	+ 27,993
	$	2,026,670	1,721,012	5,196,539	4,617,484	4,104,869	— 512,615
Hareng	qtx.	496,030	487,241	636,921	567,868	1,001,357	+ 433,489
	$	1,009,383	1,192,654	1,742,757	1,109,870	1,228,131	+ 118,261
Sprat	qtx.	–	1,363	72,723	65,624	88,050	+ 22,426
	$	–	11,810	413,853	371,871	540,265	+ 168,394
Morue	qtx.	63,371	87,532	44,272	47,324	34,102	— 13,222
	$	554,463	879,404	426,239	368,838	322,737	— 46,101
Cabillaud	qtx	(1)	(1)	29,966	10,527	25,783	+ 15,256
	$	–	–	285,034	116,580	181,202	+ 64,622
Crabe	qtx.	3,282	5,886	5,098	6,428	10,060	+ 3,632
	$	32,002	48,424	54,660	55,102	57,963	+ 2,861
Huîtres	brl.	1,562	1,789	1,449	2,379	1,718	— 661
	$	28,897	32,202	26,926	38,659	36,834	— 1,825
Clovisses et mactres	brl	8,538	11,998	10,626	7,542	5,429	— 2,113
	$	63,845	84,000	48,200	47,754	33,363	— 14,391

YUKON

Saumon	qtx.	1,435	1,385	1,150	270	2,100	+ 1,830
	$	14,350	20,775	11,500	3,250	24,000	+ 20,750
Ablette ou poisson blanc	qtx.	789	648	549	150	170	+ 20
	$	19,725	19,440	16,670	1,800	4,200	+ 2,400
Truite	qtx.	252	194	–	–	150	+ 150
	$	7,560	6,790	–	–	3,700	+ 3,700

(1) Compris avec la morue.

13. Quantité et valeur de tout le poisson pêché et mis en vente durant l'année 1920, par provinces

Espèces	Pêcheries maritimes									
	Ile du Prince-Edouard		Nouvelle-Ecosse		Nouveau-Brunswick[1]		Québec[1]		Colombie Britannique	
	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur
		$		$		$		$		$
Morue, prise .... qtx.	**22,905**	**50,684**	**1,417457**	**3,863,902**	**86,382**	**191,491**	**121,860**	**894,005**	**34,102**	**232,74**
Mise en vente:—										
fraîche .. qtx.	5,719	19,808	61,001	288,535	12,086	56,109	6,628	19,626	33,321	318,589
en saumure .. qtx.	5,810	30,692	108,409	612,239	12,751	73,042	40,856	216,100	14	100
filets fumés ..... qtx.	–	–	29,484	367,959	71	819	8,500	68,000	–	–
fumée.... qtx.	–	–	–	–	–	–	–	–	278	3,810
séchée. qtx.	1,819	13,719	324,801	2,885,130	16,342	138,320	101,814	772,301	–	–
désossée .... qtx.	216	3,102	24,112	325,980	261	4,926	941	9,969	17	238
en boîte caisses	–	–	3,481	29,348	–	–	–	–	–	–
huile de foie médicinale gal	–	–	7,024	7,290	25	20	4,000	4,000	–	–
frai de morue qtx.	–	–	–	–	40	400	–	–	–	–
Total, valeur marchande	–	67,321	–	4,516,481	–	273,636	–	1,089,996	–	322,737
Eglefin, pris ..	**1,085**	**1,627**	**436,036**	**838,663**	**1,624**	**8,624**	–	–	–	–
mis en vente:—										
frais.. ..... qtx.	340	1,530	104,938	443,104	2,222	11,013	–	–	–	–
en boîte caisses	–	–	16,023	125,417	997	4,237	–	–	–	–
désossé..... qtx.	–	–	136	1,780	–	–	–	–	–	–
fumé.... qtx.	–	–	67,720	622,818	30	396	–	–	–	–
en saumure..... qtx.	149	724	25,237	73,481	47	235	–	–	–	–
séché .. qtx.	150	900	38,459	235,442	226	1,603	–	–	–	–
Total, valeur marchande.	–	3,154	–	1,502,042	–	17,484	–	–	–	–
Merluche et lingue, pris qtx.	**8,751**	**14,422**	**97,320**	**140,829**	**69,331**	**65,853**	–	–	**311**	**933**
mis en vente:—										
frais... .... qtx.	95	237	2,367	5,301	1,116	4,764	–	–	11	55
en saumure..... qtx.	3,103	11,891	8,988	30,209	28,614	72,579	–	–	–	–
fumée ... .. qtx.	–	–	–	–	–	–	–	–	150	1,200
filets fumés..... qtx.	–	–	2,606	33,385	–	–	–	–	–	–
séchés..... qtx.	885	5,350	23,027	172,150	3,458	21,515	–	–	–	–
désossés ... . qtx.	83	747	136	788	128	1,275	–	–	–	–
Total, valeur marchande.	–	18,225	–	241,833	–	100,133	–	–	–	1,255
Merlan, pris .. qtx.	–	–	**93,939**	**160,389**	**11,363**	**47,276**	–	–	–	–
mis en vente:—										
frais..... qtx.	–	–	6,435	20,649	5,525	6,172	–	–	–	–
en saumure..... qtx.	–	–	10,379	37,071	6,836	17,656	–	–	–	–
filets fumés..... qtx.	–	–	2,630	34,055	–	–	–	–	–	–
séché..... qtx.	–	–	20,708	135,087	8,423	44,412	–	–	–	–
Total, valeur marchande..	–	–	–	226,862	–	68,240	–	–	–	–
Colin, pris ..... qtx.	–	–	–	–	–	–	–	–	36	198
mis en vente, frais..... qtx.	–	–	–	–	–	–	–	–	36	274
Langues et nones, marinées ou séchées..... qtx.	11	249	831	6,799	165	1,847	137	1,130		–
Flétan, pris ... qtx.	–	–	**23,589**	**364,205**	**136**	**2,348**	**240**	**1,690**	**238,770**	**3,185,726**
mis en vente:—										
frais. . . . qtx.	–	–	23,412	423,830	136	3,618	240	2,064	238,646	4,104,138
en boîte caisses.	–	–	41	410	–	–	–	–	–	–
fumé .. qtx.	–	–	36	397	–	–	–	–	41	731
Total ,valeur marchande.	–	–	–	424,637	–	3,618	–	2,064	–	4,104,869
Carrelet, barbue, plie, etc.,										
pris.. qtx.	–	–	1,400	1,485	1,814	4,568	396	2,463	11,122	23,205
mis en vente, frais..... qtx.	–	–	1,363	4,745	1,814	8,036	396	2,705	11,122	55,348
Raie, prise ... .. qtx.	–	–	745	1,020	229	458	–	–	474	1,685
mise en vente, fraîche qtx.	–	–	745	1,687	229	894	–	–	474	2,697
Sole, prise.... qtx.	–	–	–	–	–	–	–	–	2,374	12,189
Mise en vente, fraîche qtx.	–	–	–	–	–	–	–	–	2,374	20,012
Hareng, pris	**31,911**	**17,866**	**235,113**	**314,819**	**446,517**	**291,195**	**221,551**	**134,503**	**1,001357**	**867,951**
mis en vente:—										
frais ..... qtx.	2,845	6,700	24,351	77,735	18,288	29,678	1,960	2,550	47,327	89,993
désossé..... qtx.	–	–	–	–	448	4,480	–	–	163	2,190
mis en boîte..... caisses	–	–	3,826	23,226	6,397	35,683	3,560	17,800	19,986	123,659
fumé.. . . qtx	600	4,887	19,361	108,743	107,490	345,570	12,819	69,267	8,034	61,665
salé à sec..... .. qtx.	–	–	–	–	–	–	–	–	512,168	872,107
mariné.... qtx.	344	2,955	29,168	190,140	8,023	54,867	8,072	48,240	1,431	12,523
Utilisé comme boette.. brl.	13,539	35,717	41,643	138,910	39,118	70,991	63,332	49,737	25,043	65,994
Utilisé comme engrais. brl.	–	–	–	–	53,154	68,112	20,575	18,075	–	–
Total, valeur marchande. .	–	50,259	–	538,754	–	609,381	–	205,669	–	1,228,131

[1] Voir aussi pêcheries intérieures.

13. Quantité et valeur de tout le poisson pêché et mis en vente durant l'année 1920, par provinces—*suite*

Espèces	Pêcheries maritimes									
	Ile du Prince-Edouard		Nouvelle-Ecosse		Nouveau-Brunswick[1]		Québec[1]		Colombie Britannique	
	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur
		$		$		$		$		$
Maquereau, pris ..... qtx.	**5,880**	**22,515**	**81,071**	**512,561**	**15,102**	**73,648**	**10,294**	**171,550**	–	–
mis en vente:—										
frais ..... qtx.	3,030	16,862	42,395	467,645	14,674	139,747	1,345	6,890	–	–
en boîte ..... caisses	628	4,036	452	3,765	–	–	789	4,734	–	–
salé ..... brl.	828	12,966	12,401	254,738	174	2,488	12,741	212,832	–	–
Total, valeur marchande	–	33,864	–	726,148	–	142,235	–	224,456	–	–
Sprat, pris ..... qtx.	–	–	–	–	–	–	–	–	**88,050**	**77,097**
mis en vente:—										
frais ..... qtx.	–	–	–	–	–	–	–	–	553	1,212
en boîte ..... caisses	–	–	–	–	–	–	–	–	91,929	503,937
salé ..... brl.	–	–	–	–	–	–	–	–	1,154	6,925
Utilisé comme boëtte .. brl.	–	–	–	–	–	–	–	–	9,937	28,191
Total, valeur marchande	–	–	–	–	–	–	–	–	–	540,265
Sardine, prise ..... qtx.	–	–	–	–	**196,562**	**284,533**	**87**	**315**	–	–
mise en vente:—										
en boîte ..... caisses	–	–	–	–	129,925	627,972	–	–	–	–
fraîche et salée ..... brl.	–	–	–	–	164,014	231,626	87	670	–	–
Total, valeur marchande	–	–	–	–	–	859,598	–	670	–	–
Perche, prise ..... qtx.	–	–	–	–	–	–	–	–	**2,021**	**12,965**
mise en vente, fraîche ..... qtx.	–	–	–	–	–	–	–	–	2,021	16,437
Gasparot, pris	**369**	**553**	**10,620**	**20,883**	**53,563**	**99,604**	–	–	–	–
mis en vente:—										
frais ..... qtx.	–	–	4,848	13,898	7,209	16,972	–	–	–	–
salé ..... brl.	123	984	1,700	11,489	15,320	143,336	–	–	–	–
fumé ..... qtx.	–	–	363	2,801	2,136	17,397	–	–	–	–
Total, valeur marchande	–	984	–	28,188	–	177,705	–	–	–	–
Bar, pris ..... qtx.	–	–	**22**	**220**	**612**	**5,319**	–	–	**145**	**580**
mis en vente, frais ..... qtx.	–	–	22	280	612	5,779	–	–	145	798
Saumon, pris ..... qtx.	–	–	**3,361**	**69,318**	**11,051**	**242,450**	**4,744**	**60,901**	**1,262861**	**7,819,309**
mis en vente.										
frais ..... qtx.	–	–	3,337	90,975	11,009	260,932	4,000	65,703	198,519	2,332,741
en boîte ..... caisses	–	–	3	42	–	–	215	3,331	1,188,381	12,415,661
fumé ..... qtx.	–	–	7	197	–	–	–	–	2,660	22,934
salé à sec ..... qtx.	–	–	–	–	–	–	–	–	33,645	151,129
préparé au lait ..... qtx.	–	–	–	–	–	–	–	–	8,924	205,734
mariné ..... qtx.	–	–	–	–	–	–	392	3,862	134	1,149
Total, valeur marchande	–	–	–	91,214	–	260,932	–	72,896	–	15,129,348
Alose, prise ..... qtx.	–	–	12	214	375	5,111	–	–	21	168
mise en vente, fraîche ..... qtx.	–	–	12	214	375	5,542	–	–	21	205
Eperlan, pris ..... qtx.	**10,906**	**87,248**	**3,928**	**16,673**	**19,041**	**349,249**	**1,810**	**20,061**	**1,371**	**11,337**
mis en vente, frais ..... qtx.	10,906	121,810	3,928	61,432	40,041	565,279	1,810	24,160	1,371	15,936
Esturgeon, pris ..... qtx.	–	–	**15**	**228**	–	–	**180**	**900**	**143**	**2,630**
mis en vente, frais ..... qtx.	–	–	15	255	–	–	180	1,440	143	3,775
Truite, prise ..... qtx.	**52**	**520**	**573**	**11,610**	**92**	**1,518**	**167**	**1,384**	–	–
mise en vente, fraîche ..... qtx.	52	520	573	11,907	92	1,550	167	1,794		–
Cabillaud, pris ..... qtx.	–	–	–	–	–	–	–	–	**25,783**	**119,626**
mis en vente:—										
frais ..... qtx.	–	–	–	–	–	–	–	–	11,369	70,110
en saumure ..... qtx.	–	–	–	–	–	–	–	–	42	409
fumé ..... qtx.	–	–	–	–	–	–	–	–	7,164	110,683
Total, valeur marchande	–	–	–	–	–	–	–	–	–	181,202
Morue rouge, etc., prise ..... qtx.	–	–	–	–	–	–	–	–	**3,892**	**13,365**
mise en vente:										
fraîche ..... qtx.	–	–	–	–	–	–	–	–	3,816	19,574
fumée ..... qtx.	–	–	–	–	–	–	–	–	38	442
Total, valeur marchande	–	–	–	–	–	–	–	–	–	20,016
Bonite, prise ..... qtx.	–	–	**1,542**	**9,615**	–	–	–	–	–	–
mise en vente, fraîche ..... qtx.	–	–	1,542	10,587	–	–	–	–	–	–
Capelan, pris ..... brl.	–	–	–	–	30	30	7,835	13,505	–	–
mis en vente, frais ..... brl.	–	–	–	–	30	30	7,835	17,060	–	–

[1]Voir aussi pêcheries intérieures.

13. Quantité et valeur de tout le poisson pêché et mis en vente durant l'année 1920, par provinces—*suite*

Espèces		Pêcheries maritimes									
		Ile du Prince-Edouard		Nouvelle-Ecosse		Nouveau-Brunswick[1]		Québec[1]		Colombie Britannique	
		Quantité	Valeur	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur
			$		$		$		$		$
Anguille, prise	qtx.	**181**	**1,770**	**1,262**	**10,552**	**699**	**5,936**	**84**	**504**	**30**	**88**
mise en vente, fraîche	qtx.	181	2,132	1,262	11,844	699	7,227	84	672	30	162
Roussette ou chien de mer pris[2]	qtx.	–	–	–	–	–	–	–	–	**15,000**	**4,550**
Poulpe, prise	qtx.	–	–	–	–	–	–	–	–	**394**	**2,646**
mise en vente, fraîche	qtx.	–	–	–	–	–	–	–	–	394	4,082
Dulachon, pris	qtx.	–	–	–	–	–	–	–	–	**2,115**	**8,575**
mis en vente, frais	qtx.	–	–	–	–	–	–	–	–	2,115	9,096
Encornet, pris	brl.	–	–	**1,746**	**5,270**	–	–	**3,204**	**6,918**	–	–
mis en vente frais	brl.	–	–	1,746	5,302	–	–	3,204	6,978	–	–
Espadon, pris	qtx.	–	–	**3,351**	**41,246**	–	–	–	–	–	–
mise en vente, frais	qtx.	–	–	3,351	51,104	–	–	–	–	–	–
Tacaud (petite morue), prise	qtx.	6	**24**	**70**	**130**	**8,152**	**15,626**	**4**	**12**	**15**	**45**
mise en vente, fraîche	qtx.	6	24	70	154	8,152	30,757	4	20	15	60
Poissons divers, pris (à l'exclusion de toutes les espèces ci-dessus mentionnées)	qtx.	–	–	**1,391**	**956**	–	–	**200**	**840**	–	–
mis en vente, frais	qtx.	–	–	1,391	956	–	–	200	1,160	–	–
Clovisses et mactres, prises	brl.	**187**	**620**	**8,211**	**20,386**	**11,133**	**22,363**	**1,183**	**4,396**	**5,429**	**11,939**
mises en vente:											
fraîches	brl.	90	450	5,791	19,296	1,493	5,775	1,183	4,499	429	3,363
en boîtes	caisses	97	632	2,420	15,448	9,678	67,946	–	–	5,000	30,000
Total, valeur marchande		–	1,082	–	34,744	–	73,721	–	4,499	–	33,363
Bucardes, prises	qtx.	–	–	–	–	**214**	**657**	–	–	–	–
mises en vente, fraîches	qtx.	–	–	–	–	214	657		–	–	–
Crabs, pris	qtx.	–	–	–	–	**600**	**300**	–	–	**10,060**	**32,935**
mis en vente, frais	qtx.	–	–	–	–	600	300	–	–	10,060	57,963
Homard, pris	qtx.	**83,191**	**703,921**	**213,935**	**2,768,777**	**64,346**	**683,585**	**38,510**	**400,863**	–	–
mis en vente:—											
vivant	qtx.	–	–	55,217	1,124,140	13,514	308,083	269	2,415	–	–
en boîte	caisses	40,322	1,381,474	79,253	2,866,729	24,532	781,373	19,192	657,908	–	–
foie de	caisses	6	60	2,120	25,684	123	1,230	370	3,359	–	
Total, valeur marchande		–	1,381,534	–	4,016,553	–	1,090,686	–	663,682	–	–
Moules, prises	qtx.	–	–	**172**	**121**	–	–	–	–	–	–
mises en vente, fraîches	qtx.	–	–	172	121	–	–	–	–	–	–
Huîtres, prises	brl.	**2,775**	**22,423**	**1,826**	**11,861**	**8,207**	**55,780**	–	–	**1,718**	**36,830**
mises en vente, fraîche	brl.	2,775	25,325	1,826	13,762	8,207	70,942	–	–	1,718	36,834
Pétoncles, pris	brl.	–	–	**4,186**	**23,623**	–	–	–	–	–	–
mis en vente, écaillés	gal.	–	–	8,131	28,848	–	–	–	–	–	–
Crevettes, prises	qtx.	–	–	–	–	–	–	–	–	**563**	**6,735**
mises en vente, fraîches	qtx.	–	–	–	–	–	–	–	–	563	13,536
Bigorneaux (ou littorines), pris	qtx.	–	–	**1,885**	**2,850**	**30**	**69**	–	–	–	–
mis en vente frais	qtx.	–	–	1,885	2,850	30	69	–	–	–	–
Phoques à fourrures, pris	nom	–	–		–	–	–	–	–	**1,058**	**20,542**
peaux vendues	nomb	–	–	–	–	–	–	–	–	1,058	24,712
Phoques, communs, pris	nom	–	–	**2,262**	**4,520**	–	–	**2,629**	**9,626**	–	–
peaux vendues	nomb.	–	–	2,262	4,520	–	–	2,629	10,179	–	–
huile	gal.	–	–	6,829	6,829	–	–	5,769	5,769	–	–
Total, valeur marchande		–	–	–	11,349	–	–	–	15,948	–	–
Baleines, prises	nomb.	–	–	–	–	–	–	–	–	**493**	**85,800**
fanons	tonnes	–	–	–	–	–	–	–	–	503	15,090
engrais	tonnes	–	–	–	–	–	–	–	–	1,033	82,630
huile	gal.	–	–	–	–	–	–	–	–	604,670	338,026
Total, valeur marchande		–	–	–	–	–	–	–	–	–	435,746

(1) Voir aussi pêcheries intérieures.
(2) La roussette sert à faire de l'huile et de l'engrais.

13. Quantité et valeur de tout le poisson pêché et mis en vente durant l'année 1920, par provinces—*suite*

Espèces	Pêcheries maritimes									
	Ile du Prince-Edouard		Nouvelle-Ecosse		Nouveau-Brunswick[1]		Québec[1]		Colombie Britannique	
	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur
		$		$		$		$		$
Marsouins, pris .. nomb.	–	–	–	–	–	–	**186**	**4,650**	–	–
peaux, mis en vente.. nomb.	–	–	–	–	–	–	186	2,790	–	–
huile.... .....gal.	–	–	–	–	–	–	3,720	3,720	–	–
Total, valeur marchande. .	–	–	–	–	–	–	–	6,510	–	–
Huile de poisson.. gal.	3,300	2,240	170,598	148,074	36,033	21,330	77,086	77,086	55,669	31,155
Entrailles de poisson ....tonnes.	–	–	915	3,311	1,139	2,742	–	–	22	1,462
Os de baachies. . qtx.	–	–	8,590	3,332	510	247	–	–	–	–
Peaux de poisson .. qtx.	–	–	6,032	1 5,745	161	197	67	127	–	–
Engrais. . ..tonnes.	–	–	136	545	–	–	–	–	444	37,685
Valeur totale des pêcheries maritimes:										
Valeur des prises .		**951,226**	–	**9,276,956**	–	**2,457,191**	–	**1,732,089**	–	**12,625,398**
Valeur marchande	–	**1,708,723**	–	**12,742,659**	–	**1,400,791**	–	**2,420,722**	–	**22,329,161**

(1) Voir aussi pêcheries intérieures.

Espèces	Pêcheries intérieures					
	Nouveau-Brunswick[2]		Québec[2]		Ontario	
	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur
		$		$		$
Gasparot... qtx	**832**	**2,496**	–	–	–	–
Mis en vente:						
Frais. .....qtx	142	426	–	–	–	–
Salé . brl	230	2,300	–	–	–	–
Total, valeur marchande ...	–	2,726	–	–	–	–
Achigan, pris qtx	**5**	**75**	**355**	**5,500**	–	–
Mis en vente frais.. qtx	5	75	355	5,591	–	
Carpe, prise .. qtx	–	–	**813**	**7,263**	**11,087**	**44,348**
Mise en vente fraiche.. qtx	–	–	813	8,289	11,087	44,348
Barbotte, prise... qtx	–	–	**581**	**5,959**	**5,442**	**32,652**
Mise en vente fraiche... qtx	–	–	581	5,959	5,442	38,094
Anguille, prise qtx	**60**	**600**	**6,050**	**52,760**	**1,775**	**17,750**
Mise en vente fraiche.. qtx	60	600	6,050	62,775	1,775	21,300
Hareng, pris . qtx	–	–	**1,650**	**4,950**	**134,594**	**672,970**
Mis en vente:						
Frais.. qtx	–	–	1,650	7,500	125,113	750,678
Salé brl	–	–	–	–	6,321	37,926
Total valeur marchande..	–	–	–	7,500	–	788,604
Maskinongé, pris qtx	–	–	4	78	–	–
Mis en vente frais... qtx	–	–	4	78	–	–
Poissons divers (gade, chabot, ouananiche, etc. pris) qtx	–	–	**2,777**	**26,453**	**30,674**	**122,696**
Mis en vente frais... qtx	–	–	2,777	27,961	30,674	122,696
Marsouin, pris. nomb	–	–	**74**	**3,700**	–	–
Mis en vente frais.. .. nomb.	–	–	74	4,440	–	–
Perche (perchaude) prise ..... qtx	–	–	**337**	**3,542**	**17,947**	**143,576**
Mis en vente fraiche.. qtx	–	–	337	3,568	17,947	179,470
Doré, pris . .. qtx	**188**	**2,256**	**466**	**8,855**	**16,052**	**160,520**
Mis en vente frais . .. qtx	188	2,256	466	9,673	16,052	208,676
Doré bleu, pris . .. qtx	–	–	–	–	**33,795**	**202,770**
Mis en vente frais... .. qtx	–	–	–	–	33,795	236,565

(2) Voir aussi pêcheries maritimes.

13. Quantité et valeur de tout le poisson pêché et mis en vente durant l'année 1920, par provinces—*suite*

Espèces		Pêcheries intérieures					
		Nouveau-Brunswick[1]		Quebec[1]		Ontario	
		Quantité	Valeur	Quantité	Valeur	Quantité	Valeur
			$		$		$
Brochet pris	qtx	–	–	565	6,646	12,241	61,205
Mis en vente frais	qtx	–	–	565	6,734	12,241	85,687
Saumon, pris	qtx	423	14,805	183	2,256	–	–
Mis en vente frais	qtx	423	14,805	183	2,775	–	–
Alose, prise	qtx	–	–	1,048	10,154	–	–
Mise en vente fraîche	qtx	–	–	1,048	12,704	–	–
Eperlan, pris	qtx	–	–	62	620	–	–
Mis en vente frais	qtx	–	–	62	744	–	–
Esturgeon, pris	qtx	80	1,600	613	7,195	1,889	22,668
Mis en vente:							
Frais	qtx	80	1,600	613	9,010	1,889	28,335
Vessiers	nomb.	–	–	–	–	438	219
Caviar	liv.	106	249	–	–	5,744	5,744
Total, valeur marchande		–	1,849	–	9,010	–	34,298
Truite, prise	qtx	–	–	44	495	51,380	513,800
Mise en vente:							
Fraîche	qtx	–	–	44	660	47,990	623,870
Salée	brl	–	–	–	–	2,260	29,380
Total valeur marchande		–	–	–	660	–	653,250
Tullipi, pris	qtx	–	–	–	–	4,327	34,616
Mise en vente:							
Frais	qtx	–	–	–	–	4,327	38,943
Fumé	qtx	–	–	–	–	–	–
Total valeur marchande		–	–	–	–	–	38,943
Ablette (poisson blanc), prise	qtx	32	640	271	2,699	69,786	697,860
Mise en vente:							
Fraîche	qtx	32	640	271	3,199	64,538	838,994
Salée	brl	–	–	–	–	3,499	45,487
Total valeur marchande		–	640	–	3,199	–	884,481
Valeur totale des pêcheries intérieures—							
Valeur des prises		–	22,472	–	149,425	–	2,727,431
Valeur marchande		–	22,951	–	171,660	–	3,336,412

[1]Voir aussi pêcheries maritimes.

13. Quantité et valeur de tout le poisson pêché et mis en vente durant l'année 1920, par provinces—*fin*

Espèces		Pêcheries intérieures							
		Manitoba		Saskatchewan		Alberta		Yukon	
		Quantité	Valeur	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur
			$		$		$		$
Barbotte, prise	qtx	**240**	**2,430**	–	–	–	–	–	–
Mise en vente fraîche	qtx	240	2,760	–	–	–	–	–	–
Oeils-d'or, pris	qtx	**1,593**	**15,303**	**20**	**200**	–	–	–	–
Mis en vente:									
Frais	qtx	2,103	10,445	20	240	–	–	–	–
Fumé	qtx	1,245	22,829	–	–	–	–	–	–
Total valeur marchande		–	33,274	–	240	–	–	–	–
Poissons divers, pris	qtx	**960**	**3,350**	**1,790**	**2,701**	–	–	**60**	**1,200**
Mis en vente frais	qtx	960	4,350	1,790	4,091	–	–	60	1,200
Mulet, pris	qtx	**22,028**	**32,951**	**2,155**	**6,182**	–	–	–	–
Mis en vente frais	qtx	22,028	49,514	2,155	12,602	–	–	–	–
Perche (perchaude), prise	qtx	**671**	**6,001**	–	–	–	–	–	–
Mise en vente fraîche	qtx	671	7,210	–	–	–	–	–	–
Doré, pris	qtx	**39,070**	**266,823**	**3,646**	**19,138**	**2,461**	**11,598**	–	–
Mis en vente frais	qtx	39,070	355,358	3,646	31,926	2,461	23,594	–	–
Brochet, pris	qtx	**25,535**	**90,855**	**3,254**	**13,244**	**2,096**	**5,705**	–	–
Mis en vente frais	qtx	25,535	137,622	3,254	23,459	2,096	11,394	–	–
Saumon, pris	qtx	–	–	–	–	–	–	2,100	**24,000**
Mis en vente frais	qtx	–	–	–	–	–	–	**2,100**	24,000
Esturgeon, pris	qtx	**397**	**9,805**	**56**	**560**	–	–	–	–
Mis en vente:									
Frais	qtx	397	11,116	56	840	–	–	–	–
Caviar	liv.	200	400	–	–	–	–	–	–
Total, valeur marchande		–	11,516	–	840	–	–	–	–
Truite, prise	qtx	**463**	**3,704**	**912**	**5,268**	**1,930**	**10,200**	**150**	**3,700**
Mise en vente fraîche	qtx	463	4,167	912	8,492	1,930	22,593	150	3,700
Tullipi, pris	qtx	**33,386**	**167,250**	**248**	**1,178**	**627**	**2,103**	–	–
Mis en vente:									
Frais	qtx	33,312	201,169	248	1,953	627	3,579	–	–
Fumé	qtx	37	675	–	–	–	–	–	–
Total valeur marchande		–	**201,844**	–	**1,953**	–	**3,579**	–	–
Ablette (poisson blanc), prise	qtz	**43,358**	**280,906**	**24,206**	**127,646**	**43,941**	**201,981**	**170**	**4,200**
Mis en vente fraîche	qtx	43,358	441,992	24,206	212,869	43,941	467,918	170	4,200
Valeur totale des pêcheries intérieures—									
Valeur des prises		–	**879,378**	–	**176,117**	–	**231,587**	–	**33,100**
Valeur marchande		–	**1,249,607**	–	**296,472**	–	**529,078**	–	**33,100**

14. Proportion du poisson de mer pris en haute mer (par les chalutiers à vapeur et autres navires pêchant sur les bancs ou restant en mer plus de deux jours) 1920

	Provinces et comtés ou districts	Morue		Eglefin		Merluche et lingue	
		Pêche totale	Proportion prise en haute mer	Pêche totale	Proportion prise en haute mer	Pêche totale	Proportion prise en haute mer
		qtx	qtx	qtx	qtx	qtx	qtx
1	**Canada—totaux**	**1,982,706**	**1,040,513**	**411,745**	**233,650**	**175,719**	**24,689**
2	**Ile du Prince-Edouard, totaux**	**22,905**	**190**	**1,085**	**–**	**8,754**	**–**
3	Kings	6,338	190	1,085	–	6,172	–
4	Queens	11,096	–	–	–	–	–
5	Prince	5,471	–	–	–	2,582	–
6	**Nouvelle-Ecosse, totaux**	**1,417,457**	**1,018,195**	**436,036**	**232,911**	**97,320**	**24,416**
7	Richmond	23,418	4,721	19,444	2,368	–	–
8	Cap Breton	28,547	–	5,407	–	–	–
9	Victoria	22,829	–	52,562	–	–	–
10	Inverness	74,647	39,629	67,189	56,395	1,769	477
11	Cumberland	115	–	16	–	–	–
12	Colchester	166	–	–	–	–	–
13	Pictou	1,003	–	–	–	416	–
14	Antigonish	1,528	–	582	–	2,400	–
15	Guysborough	56,334	30,000	68,153	38,000	778	–
16	Halifax	81,106	36,229	67,382	43,068	4,819	3,977
17	Hants	142	–	5	–	–	–
18	Lunenburg	869,985	828,165	83,055	78,450	1,930	1,480
19	Queens	24,455	10,000	8,731	7,000	3,628	3,200
20	Shelburne	79,263	–	16,419	–	3,754	–
21	Yarmouth	80,420	67,724	5,901	5,341	13,870	13,870
22	Digby	58,471	1,727	37,647	2,289	55,470	1,412
23	Annapolis	12,174	–	3,047	–	8,096	–
24	Kings	2,854	–	496	–	390	–
25	**Nouveau-Brunswick, totaux**	**86,382**	**19,131**	**4,624**	**739**	**69,334**	**273**
26	Charlotte	29,032	–	3,084	–	59,734	–
27	St-John	2,200	–	355	–	7,500	–
28	Albert	–	–	–	–	–	–
29	Westmorland	–	–	–	–	–	–
30	Kent	340	200	20	–	980	–
31	Northumberland	1,095	660	12	12	18	18
32	Gloucester	52,315	17,771	1,153	727	827	255
33	Restigouche	1,400	500	–	–	275	–
34	**Québec, totaux**	**421,860**	–	–	–	–	–
35	Bonaventure	20,144	–	–	–	–	–
36	Gaspé	146,659	–	–	–	–	–
37	Iles de la Madeleine	37,880	–	–	–	–	–
38	Saguenay	208,932	–	–	–	–	–
39	Rimouski	8,245	–	–	–	–	–
40	**Colombie Britannique, totaux**	**34,102**	**2,997**	–	–	**311**	–
41	District I	17,745	2,381	–	–	–	–
42	District II	616	616	–	–	–	–
43	District III	15,741	–	–	–	311	–

14. Proportion du poisson de mer pris en haute mer (par les chalutiers à vapeur et autres navires pêchant sur les bancs ou restant en mer plus de deux jours) 1920—*suite*

Merlan		Flétan		Carrelet, barbue, plie, etc.		Raie		
Pêche totale	Proportion prise en haute mer	Pêche totale	Proportion prise en haute mer	Pêche totale	Proportion prise en haute mer	Pêche totale	Proportion prise en haute mer	
qtx	qtx	qtx	qtx	qtx	qtx	qtx	qtx	
141,302	**18,806**	**262,726**	**249,588**	**14,732**	**11,198**	**1,448**	**571**	**1**
–	–	–	–	–	–	–	–	2
–	–	–	–	–	–	–	–	3
–	–	–	–	–	–	–	–	4
–	–	–	–	–	–	–	–	5
96,939	**18,806**	**23,580**	**12,860**	**1,400**	**891**	**745**	**476**	6
3,794	–	64	4	–	–	–	–	7
910	–	726	120	–	–	–	–	8
117	–	196	–	–	–	–	–	9
7,512	4,649	1,301	487	518	423	373	248	10
104	–	6	–	–	–	–	–	11
–	–	–	–	5	–	–	–	12
–	–	–	–	–	–	–	–	13
–	–	–	–	102	–	–	–	14
10,420	–	1,518	1,189	264	230	–	–	15
14,905	8,398	6,462	940	386	238	367	228	16
12	–	–	–	–	–	–	–	17
7,670	2,950	1,206	1,206	–	–	–	–	18
6,442	300	772	550	20	–	5	–	19
12,926	–	1,769	–	–	–	–	–	20
10,931	2,474	8,500	8,266	–	–	–	–	21
17,572	35	967	98	105	–	–	–	22
1,616	–	65	–	–	–	–	–	23
2,008	–	28	–	–	–	–	–	24
44,363	–	**136**	–	**1,814**	–	**229**	–	**25**
43,903	–	136	–	874	–	229	–	26
460	–	–	–	–	–	–	–	27
–	–	–	–	–	–	–	–	28
–	–	–	–	–	–	–	–	29
–	–	–	–	–	–	–	–	30
–	–	–	–	940	–	–	–	31
–	–	–	–	–	–	–	–	32
–	–	–	–	–	–	–	–	33
–	–	**240**	–	**396**	–	–	–	**34**
–	–	–	–	–	–	–	–	35
–	–	–	–	375	–	–	–	36
–	–	–	–	–	–	–	–	37
–	–	178	–	21	–	–	–	38
–	–	62	–	–	–	–	–	39
–	–	**238,770**	**236,728**	**11,122**	**11,307**	**474**	**95**	**40**
–	–	38,044	38,044	122	–	181	–	41
–	–	197,916	197,916	10,307	10,307	95	95	42
–	–	2,810	768	693	–	198	–	43

14. Proportion du poisson de mer pris en haure mer (par les chalutiers à vapeur et autres navires pêchant sur les bancs ou restant en mer plus de deux jours) 1920—*suite*

	Provinces et comtés ou districts	Sole		Hareng		Maquereau	
		Pêche totale	Proportion prise en haute mer	Pêche totale	Proportion prise en haute mer	Pêche totale	Proportion prise en haute mer
		qtx	qtx	qtx	qtx	qtx	qtx
1	**Canada—Totaux**	**2,374**	**644**	**1,936,479**	**9,020**	**142,347**	**1,045**
2	**Ile du Prince-Edouard, totaux**	–	–	**31,911**	–	**5,880**	–
3	Kings	–	–	6,716	–	450	–
4	Queens	–	–	4,756	–	1,668	–
5	Prince	–	–	20,439	–	3,762	–
6	**Nouvelle-Ecosse, totaux**	–	–	**235,113**	–	**81,071**	**80**
7	Richmond	–	–	3,417	–	12,318	–
8	Cap Breton	–	–	6,600	–	4,500	–
9	Victoria	–	–	6,163	–	497	–
10	Inverness	–	–	9,267	–	21,777	–
11	Cumberland	–	–	18,875	–	–	–
12	Colchester	–	–	111	–	–	–
13	Pictou	–	–	5,808	–	15	–
14	Antigonish	–	–	7,357	–	289	–
15	Guysborough	–	–	13,300	–	18,497	–
16	Halifax	–	–	50,234	–	7,547	80
17	Hants	–	–	218	–	–	–
18	Lunenburg	–	–	34,753	–	3,728	–
19	Queens	–	–	18,370	–	2,438	–
20	Shelburne	–	–	34,216	–	2,601	–
21	Yarmouth	–	–	7,555	–	6,461	–
22	Digby	–	–	6,565	–	28	–
23	Annapolis	–	–	6,024	–	111	–
24	Kings	–	–	6,280	–	264	–
25	**Nouveau-Brunswick, totaux**	–	–	**446,547**	**9,020**	**15,102**	**965**
26	Charlotte	–	–	223,558	–	–	–
27	St-John	–	–	12,800	–	–	–
28	Albert	–	–	–	–	–	–
29	Westmorland	–	–	76,615	–	12	–
30	Kent	–	–	22,630	1,500	2,650	500
31	Northumberland	–	–	9,035	620	465	465
32	Gloucester	–	–	101,225	6,900	11,931	–
33	Restigouche	–	–	684	–	44	–
34	**Québec, totaux**	–	–	**221,551**	–	**40,294**	–
35	Bonaventure	–	–	30,094	–	775	–
36	Gaspé	–	–	18,485	–	804	–
37	Iles de la Madeleine	–	–	162,680	–	38,700	–
38	Saguenay	–	–	2,487	–	15	–
39	Rimouski	–	–	7,805	–	–	–
40	**Colombie Britannique, totaux**	**2,374**	**644**	**1,001,357**	–	–	–
41	District I	1,528	–	22,583	–	–	–
42	District II	644	644	28,580	–	–	–
43	District III	202	–	950,194	–	–	–

14. Proportion du poisson de mer pris en haute mer (par les chalutiers à vapeur et autres navires pêchant sur les bancs ou restant en mer plus de deux jours) 1920—*fin*

Cabillaud		Morue rouge		Espadon		Baleine		
Pêche totale	Proportion prise en haute mer	Pêche totale	Proportion prise en haute mer	Pêche totale	Proportion prise en haute mer	Pêche totale	Proportion prise en haute mer	
qtx	qtx	qtx	qtx	qtx	qtx	nombre	nombre	
25,783	**20,781**	**3,892**	**660**	**3,351**	**255**	**493**	**347**	**1**
–	–	–	–	–	–	–	–	**2**
–	–	–	–	–	–	–	–	3
–	–	–	–	–	–	–	–	4
–	–	–	–	–	–	–	–	5
–	–	–	–	**3,351**	**255**	–	–	**6**
–	–	–	–	350	–	–	–	7
–	–	–	–	2,186	–	–	–	8
–	–	–	–	67	–	–	–	9
–	–	–	–	24	–	–	–	10
–	–	–	–	–	–	–	–	11
–	–	–	–	–	–	–	–	12
–	–	–	–	–	–	–	–	13
–	–	–	–	–	–	–	–	14
–	–	–	–	479	195	–	–	15
–	–	–	–	80	–	–	–	16
–	–	–	–	–	–	–	–	17
–	–	–	–	–	–	–	–	18
–	–	–	–	18	13	–	–	19
–	–	–	–	100	–	–	–	20
–	–	–	–	47	47	–	–	21
–	–	–	–	–	–	–	–	22
–	–	–	–	–	–	–	–	23
–	–	–	–	–	–	–	–	24
–	–	–	–	–	–	–	–	**25**
–	–	–	–	–	–	–	–	26
–	–	–	–	–	–	–	–	27
–	–	–	–	–	–	–	–	28
–	–	–	–	–	–	–	–	29
–	–	–	–	–	–	–	–	30
–	–	–	–	–	–	–	–	31
–	–	–	–	–	–	–	–	32
–	–	–	–	–	–	–	–	33
–	–	–	–	–	–	–	–	**34**
–	–	–	–	–	–	–	–	35
–	–	–	–	–	–	–	–	36
–	–	–	–	–	–	–	–	37
–	–	–	–	–	–	–	–	38
–	–	–	–	–	–	–	–	39
25,783	**20,781**	**3,892**	**660**	–	–	**493**	**347**	**40**
–	–	–	–	–	–	–	–	41
14,863	14,863	660	660	–	–	347	347	42
1,763	1,720	2,453	–	–	–	146	–	43

15. Résumé, par provinces, des capitaux engagés, 1920—Pêche proprement dite

	Opérations de pêche propremeat dites	Ile du Prince-Edouard		Nouvelle-Ecosse	
		Nombre	Valeur	Nombre	Valeur
			$		$
1	Chalutiers à vapeur	–	–	5	585,000
2	Bateaux de pêche à vapeur	–	–	8	41,000
3	Voiliers et embarcations à gazoline	11	9,300	480	3,096,992
4	Chaloupes à voiles et à rames	10	610	3,976	165,615
5	Chaloupes à gazoline	1,425	324,100	5,401	1,291,200
6	Semaques	8	2,800	162	87,360
7	Rets, seines, pièges, etc.	4,116	56,393	54,232	1,187,845
8	Nasses	–	–	134	41,330
9	Chaluts	312	9,260	13,961	273,538
10	Filets à enclos	–	–	–	–
11	Seines à cercle	–	–	–	–
12	Lignes à main	1,067	2,134	25,818	28,354
13	Casiers à homard	293,936	420,903	631,132	933,715
14	Pièges à anguilles	–	–	–	–
15	Môles et quais	29	68,000	1,850	1,025,800
16	Congélateurs et glacières	7	4,500	312	168,819
17	Petites poissonneries	474	23,350	4,575	467,325
	Valeur totale	–	**921,350**	–	**9,393,870**

	Opérations de pêche proprement dites	Ontario		Manitoba	
		Nombre	Valeur	Nombre	Valeur
			$		$
1	Chalutiers à vapeur	–	–	–	–
2	Bateaux de pêche à vapeur	124	777,857	7	213,500
3	Voiliers et embarcations à gazoline	–	–	–	–
4	Chaloupes à voiles et à rames	1,088	64,666	303	59,750
5	Chaloupes à gazoline	803	444,206	11	6,200
6	Semaques	–	–	–	–
7	Rets, seines, pièges, etc.	5,533,545[1]	796,456	19,213	330,260
8	Chaluts	–	–	–	–
9	Lignes à mains	642	6,163	20	110
10	Filets à enclos	1,080	775,435	–	–
11	Seines à cercle	1,442	83,140	–	–
12	Carrelets sur devidoirs	29	255	–	–
13	Harpons	122	410	–	–
14	Pièges tournants	–	–	–	–
15	Pièges à crabes	–	–	–	–
16	Etablissements d'ostréiculture	–	–	–	–
17	Môles et quais	275	94,963	24	21,000
18	Congélateurs et glacières	443	226,420	55	113,300
19	Petites poissonneries	–	–	38	19,000
	Valeur totale	–	**3,269,971**	–	**763,120**

Résumé, par provinces, des capitaux engagés, 1920—Manipulation industrielle du poisson

	Etablissements industriels	Ile du Prince-Edouard		Nouvelle-Ecosse	
		Nombre	Valeur	Nombre	Valeur
			$		$
1	Homarderies	183	340,199	152	1,349,783
2	Etablissements de préparation de mollusques	2	4,100	2	
3	Sardineries	1		4	326,509
4	Saumoneries	–	–	–	–
5	Huileries (baleines et autres poissons)	–	–	2	
6	Etablissements de fumage, salaison, etc.	6	43,530	115	2,277,108
	Valeur totale	–	**387,829**	–	**3,953,400**

[1] Dans Ontario, les rets à mailles et les seines sont indiqués par verges.

15. Résumé, par provinces, des capitaux engagés, 1920—Pêche proprement dite—*fin*

Nouveau-Brunswick						Québec						
Pêcheries maritimes		Pêcheries intérieures		Total, pêcheries		Pêcheries maritimes		Pêcheries intérieures		Total, pêcheries		
Nomb.	Valeur	Nomb.	Valeur	Nomb.	Valeur	Nomb.	Valeur	Nomb.	Valeur	Nomb.	Valeur	
	$		$		$		$		$		$	
–	–	–	–	–	–	–	–	–	–	–	–	1
2	5,300	–	–	2	5,300	–	–	–	–	–	–	2
291	262,800	–	–	291	262,800	8	15,500	–	–	8	15,500	3
3,411	94,266	237	5,015	3,648	99,281	1,438	160,500	427	13,304	1,865	173,804	4
1,844	670,450	9	2,400	1,853	672,850	2,570	953,900	81	22,765	2,651	986,665	5
57	86,600	–	–	57	86,600	4	3,500	–	–	4	3,500	6
19,730	781,561	832	13,505	20,562	795,066	9,888	499,840	347	12,362	10,235	512,202	7
608	718,550	–	–	608	718,550	312	14,500	321	41,058	633	55,558	8
2,016	48,237	–	–	2,016	48,237	716	23,878	–	–	716	23,878	9
–	–	–	–	–	–	–	–	24	872	24	872	10
–	–	–	–	–	–	–	–	810	11,597	810	11,597	11
10,589	10,406	–	–	10,589	10,406	18,732	38,883	338	919	19,070	39,802	12
237,900	284,587	–	–	237,900	284,587	127,671	240,417	–	–	127,671	240,417	13
–	–	175	525	175	525	–	–	–	–	–	–	14
447	137,600	–	–	447	137,600	289	142,750	–	–	289	142,750	15
89	217,800	–	–	89	217,800	227	64,600	41	5,525	268	70,125	16
888	228,200	–	–	888	228,200	1,549	291,930	16	2,100	1,565	294,030	17
–	3,546,357	–	21,445	–	3,567,802	–	2,460,198	–	110,502	–	2,570,700	

Saskatchewan		Alberta		Colombie Britannique		Yukon		
Nombre	Valeur	Nombre	Valeur	Nombre	Valeur	Nombre	Valeur	
	$		$		$		$	
–	–	–	–	4	265,000	–	–	1
–	–	1	2,000	21	642,500	–	–	2
–	–	–	–	256	2,399,322	–	–	3
103	2,193	74	2,740	3,485	400,669	48	1,300	4
14	5,850	92	47,150	3,371	2,761,840	2	1,050	5
–	–	–	–	68	168,000	–	–	6
1,792	41,928	3,556	81,775	6,192	2,018,380	146	4,510	7
–	–	–	–	9,594	142,381	–	–	8
16	90	–	–	6,823	39,777	–	–	9
–	–	4	800	–	–	–	–	10
30	300	–	–	–	–	–	–	11
–	–	–	–	–	–	–	–	12
–	–	–	–	–	–	–	–	13
–	–	–	–	–	–	4	850	14
–	–	–	–	4,500	27,000	–	–	15
–	–	–	–	1	19,360	–	–	16
15	1,850	27	10,005	2	1,500	–	–	17
25	3,900	36	10,760	5	214 750	–	–	18
4	345	35	1,725	39	84,800	–	–	19
–	56,456	–	156,955	–	9,185,279	–	7,710	

Résumé, par provinces, des capitaux engagés, 1920.—Manipulation industrielle du poisson

Nouveau-Brunswick		Québec		Manitoba		Colombie Britannique		
Nombre	Valeur	Nombre	Valeur	Nombre	Valeur	Nombre	Valeur	
	$		$		$		$	
177	440,226	66	296,712	–	–	–	–	1
4	–	–	–	–	–	1	–	2
2	469,087	1	–	–	–	–	10,098,163	3
–	–	3	15,150	–	–	64	–	4
–	–	–	–	–	–	9	1,549,347	5
71	454,741	40	363,880	2	26,160	33	2,457,570	6
–	1,364,054	–	675,742	–	26,160	–	14,105,080	

Primes

En vertu d'une "Loi pour encourager le développement des pêcheries maritimes et la construction des navires de pêche," une somme de $160,000 est donnée en primes, chaque année, par le Ministère de la Marine et des Pêcheries, aux pêcheurs des provinces maritimes de l'est. Ces primes sont réparties et distribuées sur les bases fixées, de temps à autre, par décrets ministériels.

Pour l'année 1920, ces versements se sont effectués sur les bases suivantes:

Aux propriétaires de navires de pêche, $1 par tonneau enregistré, avec un maximum de $80 par navire.

A chaque membre de leur équipage $7.60.

Aux propriétaires de barques mesurant au moins 13 pieds de quille, $1 par embarcation.

A chaque pêcheur montant ces barques, $6.10.

Il a été reçu 9,671 demandes de primes, dont 9,664 ont été admises. L'année précédente, le nombre de réclamations avait atteint 13,068, dont 13,061 admises. Au total, il a été versé $152,519.30, se répartissant ainsi:

A 612 navires et leurs équipages, $53,577.80.

A 9,052 barques et leurs équipages, $98,941.50.

Le tableau 2, IIIe partie, donne le détail des primes payées en 1920, par comtés.

Importations et exportations

La valeur du poisson et des produits du poisson importés au Canada, durant l'exercice terminé le 31 mars 1921, est estimée à $4,292,455, et celle des exportations à $33,615,119. Ces chiffres prouvent une augmentation des importations de $240,573, sur l'année précédente; tandis que nos exportations accusent une baisse de $8,612,877 pour la même période. Le tableau 3, IIIe partie, contient les importations et les exportations de toutes les espèces de poisson, par pays.

Revue rétrospective

Les trois tableaux suivants présentent une revue rétrospective de l'industrie de la pêche au Canada dans les années passées. En ce qui concerne la production, les données sont établies par provinces et par année et remontent jusqu'à 1870. Quant au nombre et à la valeur des navires, barques, etc., les chiffres partent de l'année 1880. Enfin, le personnel occupé à cette industrie nous est révélé depuis 1895.

16. (a) Revue rétrospective—Valeur totale des pêcheries dans les différentes provinces du Canada, depuis 1870 jusqu'à 1920 inclusivement

Années	Ile du Prince-Edouard	Nouvelle-Ecosse	Nouveau-Brunswick	Québec	Ontario	Colombie-Britannique	Manitoba, Saskatchewan, Alberta et Yukon	Total pour tout le Canada
	$	$	$	$	$	$	$	$
1870	Inconnu	4,019,425	1,131,433	1,161,551	264,982	Inconnu	Inconnu	6,577,391
1871	"	5,101,030	1,185,033	1,093,612	193,524	"	"	7,573,199
1872	"	6,016,835	1,965,459	1,320,189	267,633	"	"	9,570,116
1873	207,595	6,577,085	2,285,662	1,391,564	293,091	"	"	10,754,997
1874	288,863	6,652,302	2,685,794	1,608,660	446,267	"	"	11,681,886
1875	298,927	5,573,851	2,427,654	1,596,759	453,194	"	"	10,350,385
1876	494,967	6,029,050	1,953,389	2,097,668	437,229	104,697	"	11,117,000
1877	763,036	5,527,858	2,133,237	2,560,147	438,223	583,433	"	12,005,934
1878	840,344	6,131,600	2,305,790	2,664,655	348,122	925,767	"	13,215,678
1879	1,402,301	5,752,937	2,554,722	2,820,395	367,133	631,766	"	13,529,254
1880	1,675,089	6,291,061	2,744,447	2,631,556	444,491	713,335	"	14,499,979
1881	1,955,290	6,214,782	2,930,904	2,751,962	509,903	1,454,321	"	15,817,162
1882	1,855,687	7,131,418	3,192,339	1,976,516	825,457	1,842,675	"	16,824,092
1883	1,272,468	7,689,374	3,185,674	2,138,997	1,027,033	1,644,646	"	16,958,192
1884	1,085,619	8,763,779	3,730,454	1,694,561	1,133,724	1,358,267	"	17,766,404
1885	1,293,430	8,283,922	4,005,431	1,719,460	1,342,692	1,078,038	"	17,722,973
1886	1,141,991	8,415,362	4,180,227	1,741,382	1,435,998	1,577,348	186,980	18,679,288
1887	1,037,426	8,379,782	3,559,507	1,773,567	1,531,850	1,974,887	129,084	18,386,103
1888	876,862	7,817,030	2,941,863	1,860,012	1,839,869	1,902,195	180,677	17,418,508
1889	886,430	6,346,722	3,067,039	1,876,194	1,963,123	3,348,067	167,679	17,655,254
1890	1,041,109	6,636,444	2,699,055	1,615,119	2,009,637	3,481,432	232,104	17,714,900
1891	1,238,733	7,011,300	3,571,050	2,008,678	1,806,389	3,008,755	332,969	18,977,874
1892	1,179,856	6,340,724	3,203,922	2,236,732	2,042,198	2,849,483	1,088,254	18,941,169
1893	1,133,368	6,407,279	3,746,121	2,218,905	1,694,930	4,443,963	1,042,093	20,686,659
1894	1,119,738	6,547,387	4,351,526	2,303,386	1,659,968	3,950,478	787,087	20,719,570
1895	976,836	6,213,131	4,403,158	1,867,920	1,584,473	4,401,354	752,466	20,199,338
1896	976,126	6,070,895	4,799,433	2,025,754	1,605,674	4,183,999	745,543	20,407,424
1897	954,949	8,090,346	3,934,135	1,737,011	1,289,822	6,138,865	638,416	22,783,544
1898	1,070,202	7,226,034	3,849,357	1,761,440	1,433,632	3,713,101	613,355	19,667,121
1899	1,043,645	7,347,604	4,119,891	1,953,134	1,590,447	5,214,074	622,911	21,891,706
1900	1,059,193	7,809,152	3,769,742	1,989,279	1,333,294	4,878,820	718,159	21,557,639
1901	1,050,623	7,989,548	4,193,264	2,174,459	1,428,078	7,942,771	958,410	25,737,153
1902	887,024	7,351,753	3,912,514	2,059,175	1,265,706	5,284,824	1,198,437	21,959,433
1903	1,099,510	7,841,602	4,186,800	2,211,792	1,535,144	4,748,365	1,478,665	23,101,878
1904	1,077,546	7,287,099	4,671,084	1,751,397	1,793,229	5,219,107	1,716,977	23,516,439
1905	998,922	8,259,085	4,847,090	2,003,716	1,708,963	9,850,216	1,811,570	29,479,562
1906	1,168,939	7,799,160	4,905,225	2,175,035	1,734,856	7,003,347	1,492,923	26,279,485
1907	1,492,695	7,632,330	5,300,564	2,047,390	1,935,025	6,122,923	968,422	25,499,349
1908	1,378,624	8,009,838	4,754,298	1,881,817	2,100,078	6,465,038	861,392	25,451,085
1909	1,197,556	8,081,111	4,676,315	1,808,436	2,177,813	10,314,755	1,373,181	29,629,169
1910	1,153,708	10,119,243	4,134,144	1,692,475	2,026,121	9,163,235	1,676,507	29,965,433
1911	1,196,396	9,367,550	4,886,157	1,868,136	2,205,436	13,677,125	1,467,072	34,667,872
1912	1,379,905	7,384,055	4,264,054	1,988,241	2,842,878	14,455,488	1,074,843	33,389,464
1913	1,280,447	8,297,626	4,308,707	1,850,427	2,674,685	13,891,398	904,458	33,207,748
1914	1,261,666	7,730,191	4,940,083	1,924,430	2,755,291	11,515,086	1,137,884	31,264,631
1915	933,682	9,166,851	4,737,145	2,076,851	3,341,182	14,538,320	1,066,677	35,860,708
1916	1,344,179	10,092,902	5,656,859	2,991,624	2,658,993	14,637,346	1,826,475	39,208,378
1917	1,786,310	14,468,319	6,143,088	3,414,378	2,866,419	21,518,595	2,114,935	52,312,044
1918	1,148,201	15,143,066	6,298,990	4,568,773	3,175,111	27,282,223	2,634,180	60,250,544
1919	1,536,844	15,171,929	4,979,574	4,258,731	3,410,750	25,301,607	1,849,044	56,508,479
1920	1,708,723	12,742,659	4,423,745	2,592,382	3,336,412	22,329,161	2,108,257	49,241,339

16. (b) Revue rétrospective—Nombre et valeur des navires et barques de pêche du Canada, et valeur des agrès de pêche et du matériel de l'industrie poissonnière

Années	Navires			Barques		Valeur des filets et seines	Autre matériel de l'industrie poissonnière (1)	Total du capital
	Nombre	Tonnage	Valeur	Nombre	Valeur			
			$		$	$	$	$
1880	1,181	45,323	1,814,088	25,266	716,352	985,978	419,564	3,936,582
1885	1,177	48,728	2,021,633	28,472	852,257	1,219,284	2,604,285	6,697,459
1890	1,069	43,084	2,152,790	29,803	924,346	1,695,358	2,600,147	7,372,641
1895	1,121	37,829	2,318,290	34,268	1,014,057	1,713,190	4,208,311	9,253,848
1900	1,212	41,307	1,940,329	38,930	1,248,171	2,405,860	5,395,765	10,990,125
1901	1,231	40,358	2,417,680	38,186	1,212,297	2,312,187	5,549,136	11,491,300
1902	1,296	49,888	2,620,661	41,667	1,199,598	2,103,621	5,382,079	11,305,959
1903	1,343	42,712	2,755,150	40,943	1,338,003	2,305,444	5,842,857	12,241,454
1904	1,316	43,025	2,592,527	41,938	1,376,165	2,189,660	6,198,584	12,356,942
1905	1,384	41,640	2,813,834	41,463	1,373,337	2,310,508	6,383,218	12,880,897
1906	1,439	40,827	2,841,875	39,634	1,462,374	2,420,341	7,824,975	14,555,565
1907	1,390	36,902	2,748,234	38,711	1,437,196	2,266,722	8,374,440	14,826,592
1908	1,441	40,818	3,571,871	39,965	1,696,856	2,283,127	7,957,420	15,508,275
1909	1,750	37,662	3,303,121	41,170	1,855,629	2,572,820	9,626,362	17,357,932
1910	1,680	38,454	3,028,625	38,977	2,483,996	2,786,548	10,720,701	19,019,870
1911	1,648	–	3,502,928	36,761	2,695,650	2,453,191	12,281,135	20,932,904
1912	1,669	–	4,671,923	34,501	3,072,115	4,154,880	12,489,541	24,388,459
1913	1,992	–	4,445,259	37,680	3,834,178	3,423,110	15,761,486	27,464,033
1914	1,892	–	4,390,660	39,144	3,957,912	3,313,581	13,071,009	24,733,162
1915	1,984	–	4,594,504	38,536	4,345,954	3,544,087	13,371,030	25,855,575
1916	1,965	–	5,267,724	40,105	4,829,793	4,485,269	14,146,176	28,728,962
1917	1,533	–	6,268,946	42,689	5,770,464	5,347,497	29,756,218	47,143,125
1918	1,417	–	6,790,888	38,726	7,059,638	6,174,967	40,196,370	60,221,863
1919	1,373	–	7,768,100	36,434	7,470,095	6,312,245	33,026,526	54,577,026
1920	1,228	–	8,316,071	30,522	7,859,999	6,697,214	27,532,194	50,405,478

(1) Cela comprend toutes les fabriques de conserves de poisson, les poissonneries et établissements de fumage, les entrepôts frigorifiques, les môles et quais affectés à la pêche, les casiers à homard, pièges à saumon et à crabe, les nasses, chaluts et autres agrès de pêche, à l'exception des "navires", des "barques" et des "filets et seines".

16. (c) Revue rétrospective—Nombre de personnes employées dans l'industrie poissonnière en 1895 et depuis 1900 jusqu'à 1920

Années	Nombre de personnes employées dans les fabriques et poissonneries	Nombre de pêcheurs sur navires	Nombre de pêcheurs en barques	Nombre de pêcheurs sans bateau	Nombre total de pêcheurs	Nombre total de personnes employées dans l'industrie poissonnière
1895	13,030	9,804	61,530	–	71,334	84,364
1900	18,205	9,205	71,859	–	81,064	99,269
1901	15,315	9,148	69,142	–	78,290	93,605
1902	13,563	9,123	68,678	–	77,801	91,364
1903	14,018	9,304	69,830	–	79,134	93,152
1904	13,981	9,236	68,109	–	77,345	91,326
1905	14,037	9,366	73,505	–	82,871	96,908
1906	12,317	8,458	67,646	–	76,104	88,421
1907	11,442	8,089	63,165	–	71,254	82,696
1908	13,753	8,550	62,520	–	71,070	84,823
1909	21,694	7,931	60,732	–	68,663	90,357
1910	24,978	8,521	60,089	–	68,610	93,588
1911	25,206	9,056	56,870	–	65,926	91,132
1912	23,327	9,076	56,005	–	65,081	88,408
1913	26,893	10,525	61,251	–	71,776	98,669
1914	24,559	9,400	60,554	–	69,954	94,513
1915	27,320	9,541	65,321	–	74,862	102,182
1916	25,680	9,192	60,432	–	69,624	95,304
1917	22,732	8,946	62,700	744	72,390	95,122
1918	18,554	8,668	58,110	1,738	68,516	87,070
1919	18,356	8,908	56,280	2,616	67,804	86,160
1920	18,499	7,918	47,418	1,861	57,197	75,696

GLOSSARY—VOCABULAIRE

FISH—POISSONS

English	Français
Albacore	Bonite
Alewives	Gasparot
Bass	Bar ou achigan
Belugas	Beluga
Black cod	Cabillaud
Brill	Barbue
Caplin	Capelan
Carp	Carpe
Catfish	Barbotte
Caviar	Caviar
Clams and quahaugs	Clovisses et mactres
Cod	Morue
Cod liver oil, medicinal	Huile de foie de morue médicinale
Dulce, crab, crockles, etc	Algue, crabes, bucardes, etc.
Eels	Anguilles
Fertilizer	Engrais
Fish bones	Os de poisson
Fish offal	Entrailles de poisson
Fish oil	Huile de poisson
Fish skins	Peaux de poisson
Flounders	Carrelet
Fur seals	Phoque à fourrure
Gill bone	Os de branchies
Glue	Colle
Goldeyes	Œils-d'or
Greyfish	Roussette ou chien de mer
Haddock	Eglefin
Hair seals	Phoque commun
Hair seal skins	Peaux de phoque commun
Hake and eusk	Merluche et lingue
Halibut	Flétan
Herring	Hareng
Lobsters	Homard
Mackerel	Maquereau
Maskinonge	Maskinongé
Mixed fish	Poissons divers
Mullets	Mulet
Mussels	Moules
Octopus	Poulpe
Oulachons	Oulachon
Oysters	Huître
Perch	Perche
Pickerel	Doré
Pike	Brochet
Pilchards	Sprat
Pollock	Merlan
Porpoises	Marsouin
Red cod, etc	Petite morue, etc.
Salmon	Saumon
Salmon roe	Œufs de saumon
Sardines	Sardine
Scallops	Pétoncle
Seal oil	Huile de phoque
Sea weed	Varech
Shad	Alose
Shrimps	Crevettes
Silver Hake	Merluche argentée
Skate	Raie
Smelts	Eperlan
Soles	Sole
Sprats	Sprats
Squid	Encornet
Sturgeon	Esturgeon
Sturgeon bladders	Vessies d'esturgeon
Swordfish	Espadon
Tomalley	Foie de homard
Tom cod	Tacaud
Tongues and sounds	Langues et noues
Trout	Truite
Tullibee	Tullipi
Whales	Baleine
Whale bone and meal	Fanon et engrais de baleine
Whale oil	Huile de baleine
Whitefish	Poisson blanc ou ablette
Whiting	Colin
Winkles	Bigorneaux ou littorines

GLOSSARY—con.—VOCABULAIRE—suite

GENERAL TERMS—EXPRESSIONS USUELLES

English	Français
Advertising	Publicité
Agencies of Production—Part 1: in Primary Operations	Moyens de production—1ère partie: pêche proprement dite
Agencies of Production—Part 2: Fish Canning and Curing	Moyens de production—2ème partie: préparation et mise en boîte du poisson
All other (Provincial, municipal, etc.)	Toutes autres (provinciales, municipales, etc.)
All other sundry expenses	Toutes autres dépenses diverses
Ambergris	Ambre gris
Anchovies	Anchois
And over	Et plus
Anthracite	Anthracite
Average number of hours worked	Nombre moyen d'heures de travail
Bbl	Brl ou baril
Bituminous	Bitumineux
Boats	Bateaux ou barques
Boilers	Chaudières
But under	Mais au-dessous
Canned	En boîte
Capital and employees	Capital et employés
Carrying smacks	Bateaux de transport de pêche ou semaques
Carrying smacks and scows	Bateaux de transport de pêche et allèges ou semaques
Cases	Caisses
Cash accounts and bills receivable	En caisse, comptes et billets à recevoir
Caught and landed	Pris et débarqué ou pêché
Clam and other canneries	Etablissements à mollusques
Classification of wage-earners according to daily wages	Classification des ouvriers, selon leur salaire quotidien
Clerks, stenographers, salesmen, etc	Commis, sténographes, vendeurs, etc.
Coal	Charbon
Coke	Coke
Comprises	Comprend
Contract labour and piece workers	Travail à l'entreprise et ouvriers aux pièces
Co-operative Associations	Associations coopératives
Counties	Comtés
Crab establishments	Etablissements à crabes
Crab traps	Pièges à crabes
Cwt	Qtx
Days in operation	Jours en opérations
Dip or roll nets	Carrelets sur dévidoirs
Districts	Districts
Dried	Séché
Dry-salted	Salé à sec
Dust or slack	Poussier ou menu
Eel traps	Piège à anguille
Electric motors	Moteurs électriques
Employees on salaries	Employés recevant un traitement ou des appointements
Employees on wages	Ouvriers salariés
Employees on wages by months	Ouvriers au mois
Establishment	Etablissements
Female	Femme
Fertilizer	Engrais
Fish canned cured or otherwise prepared	Poisson en boîte, séché, fumé, ou autrement préparé
Fish caught and marketed	Poisson, pêché et mis en vente
Fish marketed for consumption fresh	Poisson vendu pour être consommé frais
Fish wheels	Pièges tournants
Fishing gear	Agrès de pêche
Fishing piers and wharves	Jetées et quais de pêche
Five persons and over	Cinq personnes et plus
Freezers and ice houses	Etablissements frigorifiques et glacières
Fresh and frozen	Frais et congelé
Fresh or salted	Frais ou salé
Fuel used	Combustible employé
Fuel oil	Pétrole
Gal	Gallon ou gall.
Gas	Gaz
Gasoline	Gazoline
Gasoline boats—row and sail	Bateaux à gazoline, à rames et à voile
Gillnets, seines, trap and smelt nets	Filets à mailles, seines, filets de pièges et à éperlan
Green-salted	Salé vert
Hand lines	Lignes à main
Home consumption	Consommation domestique
Hoop nets	Seines à cercles
H. P. according to manufacturers rating	C.-V. maximum potentiel
H. P. actually employed	C.-V. effectivement employés
Idle	Oisif—arrêté
Imports and exports of fish and fish products	Importations et exportations de poisson et des produits du poisson
In addition to quantities given in the table following equipment was used by anglers	Outre les quantités données dans le tableau, les agrès suivants ont été employés par les pêcheurs à la ligne
In addition to these numbers there were also in British Columbia workers under the contract system, with regard to which we have no details of employment	Outre ces nombres il y avait aussi dans la Colombie Britannique des ouvriers sous le système de travail à l'entreprise à l'égard desquels nous manquons de détails
Individuals	Particuliers
Inland Fisheries	Pêcheries intérieures
Insurance	Assurance

GLOSSARY—con.—VOCABULAIRE—suite

GENERAL TERMS—con.—EXPRESSIONS USUELLES—suite

English	Français
Joint stock companies	Compagnies par actions
Land, buildings and fixtures	Terrain, bâtiments et agencement
Lb.	Liv.
Less than five persons	Moins de cinq personnes
Licensed canneries	Fabriques de conserve de poisson patentées
Lignite	Lignite
Lines	Lignes
Lines and sturgeon lines	Lignes et lignes à esturgeon
Live fish or fish eggs for propagating purposes	Poisson vivant ou œufs de poisson pour pisciculture
Lobsters canned and shipped in shell	Homard, en conserve, et vivant ou frais
Lobster canneries	Fabrique de conserves de homard ou homarderies
Lobster traps	Casiers à homard
Machinery and tools	Machinerie et outils
Male	Hommes
Marketed	Mis sur le marché
Materials in stock, fuel, etc.	Matières premières en stock, combustible, etc.
Men	Hommes
Men fishing without boats	Pêcheurs sans embarcation
Mild cured	Mariné au lait
Miscellaneous expenses	Frais généraux
Months	Mois
No.	Nombre
No employees	Nombre du personnel
Northern district	District septentrional
Officers, superintendents and managers	Administrateurs, directeurs et gérants
Oil	Huile
Ordinary repairs to buildings and machinery	Réparations ordinaires aux bâtiments et à la machinerie
Other fish	Autre poisson
Other fuel	Autre combustible
Outside piece-workers	Ouvriers aux pièces au dehors
Oyster establishments	Parcs à huîtres
Partnersbip	Société en nom collectif
Pearl, mother of, unmanufactured	Nacre, non ouvrée
Per day	Par jour
Per week	Par semaine
Pickled	Mariné
Pickled or dried	Mariné ou séché
Pound nets	Filets à enclos
Power employed	Force motrice employée
Power owned	Force motrice possédée
Power rented	Force motrice louée
Prepared or preserved	Préparé ou conservé
Proprietors who regularly perform manual labour in establishment	Propriétaires se livrant régulièrement à des travaux manuels dans leur établissement
Qtl.	Qtx
Rent of offices, works and machinery	Loyer des bureaux, usines et machinerie
Rent of power	Loyer de la force motrice
Rods and lines	Lignes et cannes à pêche
Rooms	Chambres—pièces
Royalites, used of patents, etc.	Droits régaliens, usage de brevets, etc.
Sail	Voile
Sailing and gasoline vessels	Voiliers et chalonpes à gazoline
Salmon canneries	Fabriques de conserves de saumon ou saumonneries
Salted	Salé
Salmon traps	Pièges à saumon
Sardine canneries	Fabriques de conserves de sardines ou sardineries
Sea fisheries	Pêcheries maritimes
Seed and breeding oysters imported for the purpose of being planted in Canadian waters	Naissains et boues huîtrières importées pour être déposées dans les eaux canadiennes
Shelled	Ecaillés
Shipped in shell	Expédié en écaille
Skates of halibut gear	Cablières à flétan
Small	Petit (m) ou petite (f)
Smoked	Fumé
Smoked fillets	Filets fumés
Southern districts	District méridional
Spears	Harpons
Spermaceti	Spermaceti (blanc de baleine)
Steam engines	Machines à vapeur
Steam fishing vessels	Vaisseaux de pêche à vapeur
Steam trawlers	Chalutiers à vapeur
Steam vessels	Vaisseaux à vapeur
Steam vessels or tugs	Navires à vapeur ou remorqueurs
Taxes	Taxes
Time	Temps
Time in operation and hours worked	Durée des opérations et heures de travail
Ton	Tonne
Tonnage	Tonnage
Tortoise and other shells	Ecailles de tortue et autres écailles
Total amounts paid to	Montant total payé à
Total capital invested	Total du capital engagé
Total expenses	Total des dépenses
Total for province—quantity	Total pour la province—quantité

GLOSSARY—con.—VOCABULAIRE—fin

GENERAL TERMS—concluded—EXPRESSIONS USUELLES—fin

English	Français
Total for province—value	Total pour la province—valeur
Total of employees and of salaries and wages	Total du personnel, des appointements et des salaires
Total quantity	Quantité totale
Total salaries	Total des appointements
Total value	Valeur totale
Travelling	Voyages
Trawls	Chaluts
Turtles	Tortues
Under	Dessous ou au-dessous
Under 16 years	Au-dessous de 16 ans
Units	Unités
Used as bait	Employé comme boëtte
Used fresh	Consommé frais
Value	Valeur
Value of materials used	Valeur des matières premières utilisées
Value of product	Valeur des produits
Vessels—boats	Vaisseaux—bateaux ou barques
Water motors	Moteurs hydrauliques
Water wheels	Turbines
Weirs	Nasses
Wet—Salted	Salé—frais
Whalebone	Fanon de baleine
Whale oil factory	Fabrique d'huile de baleine
Whaling stations	Postes de baleiniers
Wood	Bois
10-20 tons	10-20 tonnes
16 years and over	16 ans et plus
20-40 tons	20-40 tonnes
40 tons and over	40 tonnes et plus

REPORT

OF THE

DEPARTMENT

OF

IMMIGRATION AND COLONIZATION

FOR THE

FISCAL YEAR ENDED MARCH 31, 1921

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1921

[No. 18—1921]

To His Excellency the Duke of Devonshire, K.G., P.C., G.C.M.G., G.C.V.O., etc., etc., Governor General and Commander in Chief of the Dominion of Canada.

MAY IT PLEASE YOUR EXCELLENCY:

The undersigned has the honour to lay before Your Excellency the report of the transactions of the Department of Immigration and Colonization for the fiscal year ended March 31, 1921.

Respectfully submitted,

J. A. CALDER,

Minister of Immigration and Colonization.

OTTAWA.

TABLE OF CONTENTS

Report of— PAGE

Acting Deputy Minister.. 5

Assistant Deputy Minister.. 8

Chief Controller of Chinese Immigration.. 22

Superintendent of Emigration for Canada in London, England.. 23

Commissioner of United States Emigration.. 30

Commissioner of Exhibitions.. 34

Director of Publicity.. 35

Director of Publicity, Western Division.. 38

Commissioner of Immigration, Pacific Division.. 40

Commissioner of Immigration, Western Division.. 44

Supervisor of Juvenile Immigration.. 47

Supervisor of The Women's Division.. 56

Commissioner of Immigration, Eastern Division.. 61

REPORT

OF THE

DEPARTMENT OF IMMIGRATION AND COLONIZATION

1920-21

ACTING DEPUTY MINISTER, W. W. CORY

This, the fourth annual report of the department and of the second after the war, shows an increase of immigration, as compared with that of the preceding year, of 27 per cent.

The following is a comparative statement of immigrant arrivals from 1881 onward:—

IMMIGRATION TO CANADA

Period	From British Isles	From United States	From other Countries	Totals
Calendar Year 1881	17,033	21,822	9,136	47,991
" 1882	41,283	58,372	12,803	112,458
" 1883	45,439	78,508	9,677	133,624
" 1884	31,787	65,886	6,151	103,824
" 1885	18,591	57,506	3,072	79,169
" 1886	23,507	40,650	4,995	69,152
" 1887	31,104	41,046	12,376	84,526
" 1888	30,852	44,952	12,962	88,766
" 1889	19,384	67,896	4,320	91,600
" 1890	21,793	50,336	2,938	75,067
" 1891	22,042	52,516	7,607	82,165
" 1892	22,636	.....	8,360	30,996
" 1893	20,071	.....	9,562	29,633
" 1894	16,004	.....	4,825	20,829
" 1895	14,956	.....	3,834	18,790
" 1896	12,384	.....	4,451	16,835
" 1897	11,383	2,412	7,921	21,716
" 1898	11,173	9,119	11,608	31,900
" 1899	10,660	11,945	21,938	44,543
Six months ended June 30, 1900	5,141	8,543	10,211	23,895
Fiscal year ended June, 30, 1901	11,810	17,987	19,352	49,149
" " 1902	17,259	26,388	23,732	67,379
" " 1903	41,792	49,473	37,099	128,364
" " 1904	50,374	45,171	34,786	130,331
" " 1905	65,359	43,543	37,364	146,266
" " 1906	86,796	57,796	44,472	189,064
Nine months ended March 31, 1907	55,791	34,659	34,217	124,667
Fiscal year ended March 31, 1908	120,182	58,312	83,975	262,469
" " 1909	52,901	59,832	34,175	146,908
" " 1910	59,790	103,798	45,206	208,794
" " 1911	123,013	121,451	66,620	311,084
" " 1912	138,121	133,710	82,406	354,237
" " 1913	150,542	139,009	112,881	402,432
" " 1914	142,622	107,530	134,726	384,878
" " 1915	43,276	59,779	41,734	144,789
" " 1916	8,664	36,937	2,936	48,537
" " 1917	8,282	61,389	5,703	75,374
" " 1918	3,178	71,314	4,582	79,074
" " 1919	9,914	40,715	7,073	57,702
" " 1920	59,603	49,656	8,077	117,336
" " 1921	74,262	48,059	26,156	148,477

BRITISH IMMIGRATION

Immigrant arrivals from the United Kingdom, during the fiscal year 1920-21, numbered 74,262, as compared with 59,603 in the preceding year, an increase of 25 per cent.

CONTINENTAL IMMIGRATION

The total number of arrivals of immigrants from continental countries, during last fiscal year, was 26,156, as against 8,077 during the previous year. This increase is 224 per cent.

AMERICAN IMMIGRATION

A slight decrease of 3 per cent is shown in immigration from the United States, as compared with that of the fiscal year 1919-20; 48,059 as against 49,656.

TOTAL IMMIGRATION

Immigration from all sources gives a total of 148,477; for 1919-20, the entire immigration was 117,336. This increase is 27 per cent.

IMMIGRATION INSPECTION

Three reports dealing with immigration inspection will be included, and it will be noted that inspectors at border ports are not only keeping up their record of past years, but are rather increasing their vigilance, so that intending settlers meet the requirements of the law and regulations. During 1919-20, 69,401 persons presented themselves for admission to Canada, at border ports, of whom 19,745 were rejected; this number is 28 per cent. For 1920-21, 68,190 persons sought admission, of whom 20,131 were rejected; this is 30 per cent.

JUVENILE IMMIGRATION

The usual report of British immigrant children unaccompanied by parents or guardians will be included, and it is gratifying to note that this important branch of immigration became, during the past year, more active than in the period of the war, and the year immediately following. Increased effort on the part of overseas and Canadian officers engaged in securing for this country such a desirable addition to the population has been noticeable.

PUBLICITY

The Publicity Bureau, added to the department during the year 1918-19, with a Director of Publicity at Ottawa and a Director, Bureau of Publicity and Information, at Winnipeg, gives us, as in the year 1919-20, two reports which greatly enhance the value of this publication.

ORIENTAL IMMIGRATION

Chinese immigration, for the year 1920-21, shows an increase over the preceding year of 2,435, as compared with 544; the total for 1918-19 was 4,333. The average of Chinese arrivals, per year, for the period 1910-11 to 1919-20, ten years, was 3,187,

while the total for the past year was 2,435: it will, therefore, be seen that during the past year a decrease of 23 per cent is shown, as compared with that of the average for each of the ten preceding years.

Japanese immigration dropped from 711 in 1919-20 to 532 in the past year. The average, per year, for the ten years preceding 1920-21 was 719; so that the falling off during the past year, as compared with the average, is found to be 26 per cent.

Hindoo immigration to Canada has practically ceased, only 10 having arrived in the last year. During the last ten years, only 107 arrived, an average of about 10 yearly.

REPORT OF THE ASSISTANT DEPUTY MINISTER, W. D. SCOTT

SUMMARY for the Fiscal Year 1920-21

Per ocean travel—			
Quebec		65,969	
St. John		16,676	
Halifax		10,282	
Vancouver		2,215	
Victoria		1,016	
North Sydney		901	
New York	3,021		
Boston	311		
Philadelphia	25		
Portland	2	3,359	100,418
From the United States			48,059
Total			148,477

COMPARATIVE STATEMENT.—Immigration to Canada, via Ocean Ports, by months, for the Fiscal Year 1920-21, compared with that of the Fiscal Year 1919-20

	1919-20				1920-21			
	Males	Females	Children	Totals	Males	Females	Children	Totals
April	646	2,093	1,005	3,744	3,230	2,548	1,185	6,963
May	717	2,838	1,444	4,999	5,787	5,661	2,810	14,258
June	652	1,662	792	3,106	4,790	4,596	2,238	11,624
July	1,029	3,862	1,736	6,627	4,984	4,900	2,476	12,360
August	961	6,556	2,494	10,011	3,767	4,104	2,043	9,914
September	1,230	5,326	2,011	8,567	3,973	3,422	1,728	9,123
October	2,471	5,564	2,308	10,343	4,716	3,965	2,226	10,907
November	1,294	2,857	1,151	5,302	3,327	2,852	1,406	7,585
December	1,188	2,121	843	4,152	2,637	1,600	836	5,073
January	853	1,247	454	2,554	1,105	894	503	2,502
February	934	1,214	498	2,646	1,507	1,212	673	3,392
March	2,203	2,315	1,111	5,629	3,224	2,321	1,172	6,717
Totals	14,178	37,655	15,847	67,680	43,047	38,075	19,296	100,418

COMPARATIVE STATEMENT.—Immigration from the United States to Canada, by months, for the Fiscal Year 1920-21, compared with that of the Fiscal Year 1919-20

	1919-20				1920-21			
	Males	Females	Children	Totals	Males	Females	Children	Totals
April	4,055	1,702	1,767	7,524	3,556	1,426	1,342	6,324
May	2,636	1,394	1,168	5,198	3,004	1,304	1,045	5,353
June	2,499	1,262	946	4,707	2,686	1,137	897	4,720
July	2,393	1,175	882	4,450	2,464	1,050	787	4,301
August	3,156	1,081	912	5,149	4,025	1,052	761	5,838
September	2,705	1,165	982	4,852	2,634	903	690	4,227
October	2,064	1,078	927	4,069	2,136	968	841	3,945
November	1,303	759	710	2,772	1,847	791	624	3,262
December	1,051	607	491	2,149	1,101	593	416	2,110
January	898	469	298	1,665	879	506	366	1,751
February	1,062	508	381	1,951	1,061	516	359	1,936
March	2,872	1,151	1,147	5,170	2,368	1,056	868	4,292
Totals	26,694	12,351	10,611	49,656	27,761	11,302	8,996	48,059

COMPARATIVE STATEMENT.—Total Immigration to Canada, by months, for the Fiscal Year 1920-21, compared with that of the Fiscal Year 1919-20

	1919-20				1920-21			
	Males	Females	Children	Totals	Males	Females	Children	Totals
April	4,701	3,795	2,772	11,268	6,786	3,974	2,527	13,287
May	3,353	4,232	2,612	10,197	8,791	6,965	3,855	19,611
June	3,151	2,924	1,738	7,813	7,476	5,733	3,135	16,344
July	3,422	5,037	2,618	11,077	7,448	5,950	3,263	16,661
August	4,117	7,637	3,406	15,160	7,792	5,156	2,804	15,752
September	3,935	6,491	2,993	13,419	6,607	4,325	2,418	13,350
October	4,535	6,642	3,235	14,412	6,852	4,933	3,067	14,852
November	2,597	3,616	1,861	8,074	5,174	3,643	2,030	10,847
December	2,239	2,728	1,334	6,301	3,738	2,193	1,252	7,183
January	1,751	1,716	752	4,219	1,984	1,400	869	4,253
February	1,996	1,722	879	4,597	2,568	1,728	1,032	5,328
March	5,075	3,466	2,258	10,799	5,592	3,377	2,040	11,009
Totals	40,872	50,006	26,458	117,336	70,808	49,377	28,292	148,477

COMPARATIVE STATEMENT.—Total Immigration to Canada, by Ports, for the Fiscal Year 1920-21, compared with that of the Fiscal Year 1919-20

	1919-20				1920-21			
	Males	Females	Children	Totals	Males	Females	Children	Totals
Quebec	6,254	21,738	9,133	37,125	27,435	25,784	12,750	65,969
St. John	3,943	6,561	2,949	13,453	7,685	6,032	2,959	16,676
Halifax	1,637	6,917	2,607	11,161	4,337	3,913	2,032	10,282
Vancouver	404	153	117	674	1,676	219	320	2,215
Victoria	353	399	82	834	573	340	103	1,016
North Sydney	85	190	139	414	136	396	369	901
United States ports (New York, Boston, Philadelphia and Portland)	1,502	1,697	820	4,019	1,205	1,391	763	3,359
From the United States	26,694	12,351	10,611	49,656	27,761	11,302	8,996	48,059
Totals	40,872	50,006	26,458	117,336	70,808	49,377	28,292	148,477

SEX, Occupation and Destination of Total Immigrant Arrivals in Canada, for the Fiscal Year ended March 31, 1921

	Via Ocean Ports	From the United States	Totals
Sex—			
Males	43,047	27,761	70,808
Females	38,075	11,302	49,377
Children	19,296	8,996	28,292
Totals	100,418	48,059	148,477
Trade or Occupation—			
Farmers and Farm Labourers—			
Males	15,604	11,122	26,726
Females	4,085	2,980	7,065
Children	4,027	3,645	7,672
General Labourers—			
Males	6,736	5,345	12,081
Females	1,920	1,166	3,086
Children	1,206	908	2,114
Mechanics—			
Males	9,217	6,234	15,451
Females	4,171	1,244	5,415
Children	2,297	1,135	3,432
Traders, etc.—			
Males	3,916	1,917	5,833
Females	1,973	820	2,793
Children	513	375	888
Miners—			
Males	1,591	427	2,018
Females	303	58	361
Children	348	59	407
Female Servants	9,432	1,010	10,442
Not Classified—			
Males	5,983	2,716	8,699
Females	16,191	4,024	20,215
Children	10,905	2,874	13,779
Destination—			
Nova Scotia	3,217	951	4,168
New Brunswick	866	1,017	1,883
Prince Edward Island	49	253	302
Quebec	14,019	7,081	21,100
Ontario	49,103	13,469	62,572
Manitoba	8,289	4,360	12,649
Saskatchewan	7,335	6,057	13,392
Alberta	7,097	10,684	17,781
British Columbia	10,439	4,078	14,517
Yukon Territory	4	109	113

COMPARATIVE STATEMENT.—Total Immigration to Canada, by Nationalities, for the Fiscal Year 1920-21, compared with that of the Fiscal Year 1919-20, showing Increase or Decrease of each Nationality

	1919-20	1920-21	Increase	Decrease
English	45,173	47,687	2,514	
Irish	2,751	6,384	3,633	
Scotch	10,997	19,248	8,251	
Welsh	682	943	261	
Total British	59,603	74,262	14,659	
African, South	22	63	40	
Albanian		6	6	
Argentinian	2	4	2	
Australian	88	90	2	
Austro-Hungarian—				
Austrian, N.E.S.	5	26	21	
Bohemian	3			3
Hungarian, N.E.S		23	23	
Belgian	1,532	1,645	113	
Bermudian	1	8	7	
Bulgarian	1	4	3	
Chilian	2			2
Chinese	544	2,435	1,891	
Corean	1			1
Cuban	2			2
Czecho-Slovak	1	308	307	
Dutch	154	595	441	
French	1,584	861		723
German—				
German, N.E.S.	12	136	124	
Bavarian		1	1	
Greek	39	357	318	
Hebrew—				
Hebrew, N.E.S	32	920	888	
" Austrian		1	1	
" Polish	36	1,600	1,564	
" Russian	48	242	194	
Hindoo		10	10	
Italian	1,165	3,880	2,715	
Jamaican	3	18	15	
Japanese	711	532		179
Jugo-Slav		89	89	
Luxemburg	16	16		
Maltese	405	140		265
Mexican		1	1	
Negro	61	144	83	
Newfoundland	443	1,042	599	
New Zealand	31	40	9	
Persian		1	1	
Polish—				
Polish, N.E.S	69	3,995	3,926	
" Austrian		1	1	
" Russian	7	65	58	
Portuguese	3	4	1	
Roumanian	21	969	948	
Russian—				
Russian, N.E.S.	51	1,077	1,026	
Finnish	44	1,401	1,357	
Scandinavian—				
Danish	233	511	278	
Icelandic	11	50	39	
Norwegian	179	429	250	
Swedish	241	715	474	
Serbian	12			12
Spanish	15	202	187	
Swiss	100	235	135	

COMPARATIVE STATEMENT.—Total Immigration to Canada, etc.—*Concluded*

	1919-20	1920-21	Increase	Decrease
Turkish—				
Turkish, N.E.S	1	8	7	.....
Arabian	.....	8	8	.....
Armenian	10	85	75	.....
Egyptian	.....	9	9	.....
Syrian	18	443	425	.....
Ukrainian	.....	491	491	.....
U.S.A. Citizens, via ocean ports	55	110	55	.....
West Indian	62	110	48	.....
Total Continental, etc	8,077	26,156	18,079	.....
From the United States	49,656	48,059	.....	1,597
Total immigration	117,336	148,477	31,141	.....

ARRIVALS AT OCEAN PORTS

During the fiscal year 1920-21, there arrived, via Canadian and United States ocean ports, 235,976 passengers, of whom 27,611 travelled saloon and 208,365 steerage. Of the saloon passengers, 20,112 were destined to Canada and 7,499 to the United States. Of the steerage passengers, 180,550 were for Canada and 27,815 for the United States. Included in the steerage passengers for Canada were 61,767 returned Canadians and 18,365 tourists, leaving the immigration proper at 100,418 souls, which together with the 48,059 settlers from the United States, brings the total immigration to 148,477, an increase, as compared with that of the preceding fiscal year, of 31,141 persons.

The following further statistical information will be of interest: Table I deals with the total arrivals of saloon passengers; table II, with the total arrivals of steerage passengers; table III, with the monthly arrivals of immigrants for Canada; and tables IV and V give summaries of the information obtained from immigrants for Canada upon arrival.

TABLE I.—Nationality and Sex of Saloon Passengers, arriving at Ocean Ports, during the Fiscal Year ended March 31, 1921

—	Canada				United States				Canada and United States			
	Males	Females	Children	Totals	Males	Females	Children	Totals	Males	Females	Children	Totals
African, South	1	2	1	4	5	2	2	9	6	4	3	13
Argentinian		1		1						1		1
Australian	4	3	1	8	54	48	8	110	58	51	9	118
Austro-Hungarian—												
Austrian	1			1	4	3		7	5	3		8
Hungarian					1			1	1			1
Belgian	2	5		7	1	2		3	3	7		10
Bermudian	3	7	1	11	2	1		3	5	8	1	14
Chinese					7	1	2	10	7	1	2	10
Corean					1	1	4	6	1	1	4	6
Cuban	1	3		4					1	3		4
Czecho-Slovak	2	1		3	4			4	6	1		7
Dutch	2	7	1	10	28	3	1	32	30	10	2	42
French	53	51	26	130	37	38	6	81	90	89	32	211
German	1	4	1	6	6	5	3	14	7	9	4	20
Great Britain and Ireland—												
English	282	332	110	724	367	180	39	586	649	512	149	1,310
Irish	38	45	13	96	38	17	8	63	76	62	21	159
Scotch	96	54	30	180	63	37	12	112	159	91	42	292
Welsh	7	7	3	17	6	5		11	13	12	3	28
Greek	5	5	1	11	6			6	11	5	1	17
Hebrew—												
Hebrew, N.E.S.					9	3	5	17	9	3	5	17
" Polish					3	1		4	3	1		4
" Russian	1			1	13	4	2	19	14	4	2	20
Hindoo					2			2	2			2
Italian	18	16	2	36	5	4		9	23	20	2	45
Jamaican	18	40	9	67					18	40	9	67
Japanese	8	5	2	15	70	16	4	90	78	21	6	105
Jugo-Slav					3			3	3			3
Maltese	1			1	1			1	2			2
Mexican	1	1		2	1	1		2	2	2		4
Negro	5	20	3	28	3	11	3	17	8	31	6	45
Newfoundland	196	342	226	764	538	786	172	1,496	734	1,128	398	2,260
New Zealand	2	2	3	7	25	18	2	45	27	20	5	52
Persian					1			1	1			1
Polish	3	6	4	13	11	3		14	14	9	4	27
Portuguese					5	6		11	5	6		11
Roumanian	2			2	1	1		2	3	1		4
Russian—												
Russian, N.E.S.	2	1		3	41	24	3	68	43	25	3	71
Finnish					3	2		5	3	2		5
Scandinavian—												
Danish	1			1	18	6	3	27	19	6	3	28
Norwegian	3	2		5	14	1	1	16	17	3	1	21
Swedish	3	2		5	12	8	9	29	15	10	9	34
Spanish	1			1	29	10	8	47	30	10	8	48
Swiss	7	5	3	15	11	5		16	18	10	3	31
Turkish—												
Turkish, N.E.S.					1			1	1			1
Arabian	1	2		3					1	2		3
Armenian					3	1	1	5	3	1	1	5
Egyptian					1			1	1			1
Syrian	1	2	3	6	7	6		13	8	8	3	19
U.S.A. Citizens	18	9	4	31	1,976	1,438	524	3,938	1,994	1,447	528	3,969
Venezuelan					3	4	1	8	3	4	1	8
West Indian	19	24	2	45	32	65	5	102	51	89	7	147
Returned Canadian	5,081	3,103	907	9,091					5,081	3,103	907	9,091
Tourist	4,710	3,258	789	8,757	263	127	42	432	4,973	3,385	831	9,189
Totals	10,600	7,367	2,145	20,112	3,735	2,894	870	7,499	14,335	10,261	3,015	27,611

TABLE II.—Nationality and Sex of Steerage Passengers, arriving at Ocean Ports, during the Fiscal Year ended March 31, 1921

—	Canada				United States				Canada and United States			
	Males	Females	Children	Totals	Males	Females	Children	Totals	Males	Females	Children	Totals
African, South	21	23	19	63	5	2	1	8	26	25	20	71
Albanian	3	2	1	6	35	12	10	57	38	14	11	63
Argentinian	1	...	3	4	...	...	...	...	1	...	3	4
Australian	29	23	38	90	80	69	21	170	109	92	59	260
Austro-Hungarian—												
Austrian	2	16	8	26	9	7	...	16	11	23	8	42
Hungarian	8	12	3	23	14	29	12	55	22	41	15	78
Belgian	708	610	327	1,645	165	125	64	354	873	735	391	1,999
Bermudian	1	6	1	8	...	...	...	...	1	6	1	8
Brazilian	...	...	...	...	9	...	...	9	9	...	...	9
Bulgarian	...	3	1	4	2	...	...	2	2	3	1	6
Chinese	2,001	135	299	2,435	...	...	...	...	2,001	135	299	2,435
Cuban	...	...	...	...	3	...	...	3	3	...	...	3
Czecho-Slovak	190	90	28	308	78	127	50	255	268	217	78	563
Dutch	361	147	87	595	33	13	8	54	394	160	95	649
French	373	343	145	861	39	34	3	76	412	377	148	937
German—												
German, N.E.S	31	71	34	136	15	14	8	37	46	85	42	173
Bavarian	1	...	...	1	...	...	...	...	1	...	...	1
Great Britian and Ireland—												
English	17,999	19,624	10,064	47,687	1,235	1,269	467	2,971	19,234	20,893	10,531	50,658
Irish	3,080	2,502	802	6,384	191	180	38	409	3,271	2,682	840	6,793
Scotch	7,766	7,872	3,610	19,248	541	577	234	1,352	8,307	8,449	3,844	20,600
Welsh	399	375	169	943	53	44	7	104	452	419	176	1,047
Greek	154	137	66	357	313	53	28	394	467	190	94	751
Hebrew—												
Hebrew, N.E.S.	331	384	205	920	68	56	26	150	399	440	231	1,070
" Austrian	1	...	...	1	...	...	...	...	1	...	...	1
" Polish	443	633	524	1,600	95	131	88	314	538	764	612	1,914
" Russian	132	69	41	242	32	29	14	75	164	98	55	317
Hindoo	7	2	1	10	6	...	...	6	13	2	1	16
Italian	2,492	946	442	3,880	6,655	1,350	421	8,426	9,147	2,296	863	12,306
Jamaican	12	6	...	18	...	...	...	...	12	6	...	18
Japanese	145	338	49	532	26	10	2	38	171	348	51	570
Jugo-Slav	31	40	18	89	362	295	179	836	393	335	197	925
Luxemburg	11	3	2	16	3	1	...	4	14	4	2	20
Maltese	55	44	41	140	11	1	...	12	66	45	41	152
Mexican	1	...	...	1	3	...	...	3	4	...	...	4
Negro	72	61	11	144	268	254	48	570	340	315	59	714
Newfoundland	218	439	385	1,042	585	187	92	864	803	626	477	1,906
New Zealand	12	19	9	40	51	36	18	105	63	55	27	145
Persian	1	...	...	1	1	4	...	5	2	4	...	6
Polish—												
Polish, N.E.S.	1,633	1,404	958	3,995	356	518	296	1,170	1,989	1,922	1,254	5,165
" Austrian	1	...	...	1	...	...	...	...	1	...	...	1
" Russian	49	10	6	65		3	3	6	49	13	9	71
Portuguese	...	3	1	4	12	3	...	15	12	6	1	19
Roumanian	342	392	235	969	179	147	73	399	521	539	308	1,368
Russian—												
Russian, N.E.S	764	210	103	1,077	180	146	86	412	944	356	189	1,489
Finnish	957	299	145	1,401	29	91	33	153	986	390	178	1,554
Scandinavian—												
Danish	379	84	48	511	36	12	4	52	415	96	52	563
Icelandic	19	17	14	50	4	8	3	15	23	25	17	65
Norwegian	252	118	59	429	55	11	7	73	307	129	66	502
Swedish	516	137	62	715	58	18	3	79	574	155	65	794
Spanish	179	12	11	202	267	7	7	281	446	19	18	483
Swiss	154	61	20	235	56	33	15	104	210	94	35	339

TABLE II.—Nationality and Sex of Steerage Passengers, etc.—*Concluded*

—	Canada				United States				Canada and United States			
	Males	Females	Children	Totals	Males	Females	Children	Totals	Males	Females	Children	Totals
Turkish—												
Turkish, N.E.S.	6	.....	2	8	13	5	2	20	19	5	4	28
Arabian.....	3	3	2	8	9	4	3	16	12	7	5	24
Armenian.....	30	48	7	85	98	106	40	244	128	154	47	329
Egyptian	5	1	3	9	....	....	....	....	5	1	3	9
Syrian.....	160	174	109	443	104	83	57	244	264	257	166	687
Ukrainian.....	432	35	24	491	15	15	7	37	447	50	31	528
U.S.A. Citizens...	28	38	44	110	1,019	770	449	2,238	1,047	808	493	2,348
West Indian.....	46	54	10	110	214	216	38	468	260	270	48	578
Total Immigration.....	43,047	38,075	19,296	100,418	13,690	7,105	2,965	23,760	56,737	15,180	22,261	124,178
Returned Canadian..	30,910	19,126	11,731	61,767	....	....	....	....	30,910	19,126	11,731	61,767
Tourist.....	14,270	3,229	866	18,365	2,315	1,194	546	4,055	16,585	4,423	1,412	22,420
Totals.....	88,227	60,430	31,893	180,550	16,005	8,299	3,511	27,815	104,232	68,729	35,404	208,365

TABLE III.—Monthly Arrivals of Immigrants, for Canada, by Nationalities, at Ocean Ports, for the Fiscal Year ended March 31, 1921

	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Totals
African, South	5	5	10	12	9	3	2	7	4	1		5	63
Albanian				1	1			4					6
Argentinian		1								3			4
Australian	8	22	12	2	8	16	1	13	3	1	1	3	90
Austro-Hungarian—													
Austrian		6	1	3			13			1	1	1	26
Hungarian							6	11	6				23
Belgian	52	514	269	178	108	77	158	124	42	13	47	63	1,645
Bermudian		5					2				1		8
Bulgarian			2				2						4
Chinese	35	65	27	79	78	111	176	262	373	304	600	325	2,435
Czecho-Slovak	1	2	4	24	11	41	80	42	67	13	8	15	308
Dutch	4	140	135	39	21	82	28	64	13	2	11	56	595
French	89	151	101	68	123	102	73	32	46	19	28	29	861
German—													
German, N.E.S.		4	3	5	12	12	22	42	9	6	14	7	136
Bavarian					1								1
Great Britain and Ireland—													
English	4,106	8,245	6,058	6,991	4,631	4,121	4,801	2,771	1,209	739	836	3,179	47,687
Irish	524	924	793	947	583	644	695	399	144	119	101	511	6,384
Scotch	1,522	3,096	2,886	2,404	2,097	1,557	2,019	1,456	582	127	427	1,075	19,248
Welsh	77	146	107	130	93	83	87	69	33	2	16	100	943
Greek	12	5	13	4	68	29	72	30	59	24	27	14	357
Hebrew—													
Hebrew, N.E.S.		2	15	15	70	42	40	54	28	31	433	190	920
" Austrian				1									1
" Polish	14	96	151	39	240	128	93	80	47	27	272	413	1,600
" Russian	1	6	2	28	15	23	23	12	22	25	17	68	242
Hindoo						1	7		1		1		10
Italian	176	183	176	292	544	413	605	475	609	125	153	129	3,880
Jamaican	3	10		1		3		1					18
Japanese	77	54	48	36	64	25	21	49	33	34	33	58	532
Jugo-Slav			2	3	8	9	13	18	18	11	1	6	89
Luxemburg		6		1		6	2	1					16
Maltese		9	19	40	3	25	25	5	14				140
Mexican						1							1
Negro	9	19	4	4	30	46	11	11	4		3	3	144
Newfoundland	47	75	113	108	97	176	208	116	65	5	4	28	1,042
New Zealand	3	2	4	9	3	5	1	3	1		3	6	40
Persian		1											1
Polish—													
Polish, N.E.S.	16	86	245	406	418	553	604	570	524	346	133	94	3,995
" Austrian		1											1
" Russian		2	2	6	1	21	3	10	20				65
Portuguese					4								4
Roumanian	5	9	18	24	77	84	135	166	173	174	50	54	969
Russian—													
Russian, N.E.S.	5	10	11	46	80	115	228	183	269	77	15	38	1,077
Finnish	9	19	49	70	121	206	202	157	346	178	24	20	1,401
Scandinavian—													
Danish	47	59	67	44	53	41	45	18	37	17	18	65	511
Icelandic	1					31		15			1	2	50
Norwegian	24	75	59	74	50	21	30	21	26	6	13	30	429
Swedish	54	108	57	56	59	72	64	56	48	30	41	70	715
Spanish	2	2	51	37	34	25	25	1	24	1			202
Swiss	21	44	26	16	14	12	15	27	20	3	8	29	235
Turkish—													
Turkish, N.E.S.				1	2	5							8
Arabian			3	3						2			8
Armenian	1		2		8	7	21	4	4	6	19	13	85
Egyptian						3		6					9
Syrian	7	33	55	90	49	45	55	31	30	14	24	10	443
Ukraininn						80	159	125	114	8	5		491
U.S.A. Citizens	2	9	12	18	13	19	14	13	1		1	8	110
West Indian	4	7	12	5	13	2	21	31	5	8	2		110
Totals	6,963	14,258	11,624	12,360	9,914	9,123	10,907	7,585	5,073	2,502	3,392	6,717	100,418

TABLE IV.—Monthly Arrivals of Immigrants, for Canada, by Occupation and Destination, at Ocean Ports, for the Fiscal Year ended March 31, 1921

	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Totals
Agriculturists.....	2,483	4,129	3,192	3,284	1,873	1,795	1,845	953	806	342	418	2,596	23,716
General labourers	651	1,260	987	1,109	988	1,027	1,286	877	718	235	285	439	9,862
Mechanics.....	847	2,246	1,788	1,945	1,551	1,662	1,844	1,490	986	293	358	675	15,685
Clerks, traders, etc.....	253	738	580	675	565	522	650	623	467	342	601	386	6,402
Miners.....	152	246	177	242	271	308	254	368	114	25	37	48	2,242
Female servants..	700	1,468	1,184	1,129	978	808	958	746	324	236	304	597	9,432
Not classified.....	1,877	4,171	3,716	3,976	3,688	3,001	4,070	2,528	1,658	1,029	1,389	1,976	33,079
Totals.....	6,963	14,258	11,624	12,360	9,914	9,123	10,907	7,585	5,073	2,502	3,392	6,717	100,418
Maritime Provinces.....	381	459	412	529	364	459	487	337	288	115	93	208	4,132
Quebec.....	401	1,515	1,365	1,591	1,317	1,598	2,006	1,591	942	499	561	633	14,019
Ontario.....	3,098	7,155	5,979	6,143	5,088	4,655	5,742	3,663	2,505	957	1,252	2,866	49,103
Manitoba.....	848	1,465	1,116	1,075	791	641	582	372	210	176	269	744	8,289
Saskatchewan...	810	1,167	914	866	666	535	521	345	233	203	225	850	7,335
Alberta	661	1,161	856	954	701	523	516	441	280	146	192	666	7,097
British Columbia	764	1,332	982	1,202	987	712	1,053	836	615	406	800	750	10,439
Yukon Territory.	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
Totals.....	6,963	14,258	11,624	12,360	9,914	9,123	10,907	7,585	5,073	2,502	3,392	6,717	100,418

TABLE V.—Nationality, Sex, Occupation and Destination of Immigrant Arrivals.

	Sex				Trade or								
					Farmers and Farm labourers			General Labourers			Mechanics		
	Adult Males	Adult Females	Children under 14	Totals	Males	Females	Children	Males	Females	Children	Males	Females	Children
African, South	21	23	19	63	10	3	5	1			2	1	1
Albanian	3	2	1	6				1					
Argentinian	1		3	4				1					
Australian	29	23	38	90	10	3	18	1			6	1	6
Austro-Hungarian—													
Austrian	2	16	8	26		1	2						
Hungarian	8	12	3	23		1		1			2	1	
Belgian	708	610	327	1,645	485	234	178	52	17	6	72	43	15
Bermudian	1	6	1	8							1		
Bulgarian		3	1	4									
Chinese	2,001	135	299	2,435	2			1					
Czecho-Slovak	190	90	28	308	35	10	9	50	4	2	61	7	
Dutch	361	147	87	595	209	49	47	9	3	4	29	13	7
French	373	343	145	861	173	54	26	26	4	3	56	34	13
German—													
German, N.E.S.	31	71	34	136	12	13	10	12	1		1	4	1
Bavarian	1			1									
Great Britain and Ireland—													
English	17,999	19,624	10,064	47,687	7,812	2,341	2,535	2,023	811	605	4,111	2,323	1,246
Irish	3,080	2,502	802	6,384	1,450	231	167	530	130	65	493	215	94
Scotch	7,766	7,872	3,610	19,248	2,606	530	572	995	321	251	2,367	961	667
Welsh	399	375	169	943	181	51	32	32	6	2	65	27	15
Greek	154	137	66	357	11	1	1	52	13	6	35	2	1
Hebrew—													
Hebrew, N.E.S.	331	384	205	920	50	33	18	58	6	1	79	41	19
" Austrian	1			1									
" Polish	443	633	524	1,600	49	19	25	93	29	21	113	61	38
" Russian	132	69	41	242	18	3	2	17	2	1	11	7	9
Hindoo	7	2	1	10	2			5					
Italian	2,492	946	442	3,880	423	70	27	1,436	219	85	288	49	11
Jamaican	12	6		18				3			8		
Japanese	145	338	49	532	59	45	9	34	164	18	3	9	2
Jugo-Slav	31	40	18	89	7	2	4	5	4	2	5	4	2
Luxemburg	11	3	2	16	6	3	2	4			1		
Maltese	55	44	41	140	7			26	3	2	8	6	8
Mexican	1			1									
Negro	72	61	11	144	1	1		50	1	1	5	4	
Newfoundland	218	439	385	1,042	4	2	2	142	54	67	40	20	16
New Zealand	12	19	9	40	7	1	2	1				1	
Persian	1			1									
Polish													
Polish, N.E.S.	1,633	1,404	958	3,995	218	86	81	311	55	30	619	185	76
" Austrian	1			1									
" Russian	49	10	6	65	7	1		4		1	20	2	
Portuguese		3	1	4									
Roumanian	312	392	235	969	69	47	33	65	14	7	63	56	18
Russian—													
Russian, N.E.S.	764	210	103	1,077	132	25	31	101	11	4	297	36	12
Finnish	957	299	145	1,401	575	74	62	151	15	6	19	5	4
Scandinavian—													
Danish	379	84	48	511	240	31	27	54	2		25	2	
Icelandic	19	17	14	50	11	1	3	1			1		
Norwegian	252	118	59	429	161	47	37	38	2	3	9	3	2
Swedish	516	137	62	715	331	35	39	87	5		43	3	1
Spanish	179	12	11	202	10	1		109	5	5	7	1	1
Swiss	154	61	20	235	94	14	5	6	3		19	4	1
Turkish—													
Turkish, N.E.S.	6		2	8	1			1			1		
Arabian	3	3	2	8					1	2			
Armenian	30	48	7	85	5	2		10	5	2	6	8	1
Egyptian	5	1	3	9				2	1	3	1		
Syrian	160	174	109	443	36	14	6	27	5	1	19	15	6
Ukrainian	432	35	24	491	76	3	5	77			163	9	2
U.S.A. Citizens	28	38	44	110	7	3	5	3			9	7	2
West Indian	46	54	10	110	2			28	4		4	1	
Totals	43,017	38,075	19,296	100,418	15,604	4,085	4,027	6,736	1,920	1,206	9,217	4,171	2,297

for Canada, at Ocean Ports, for the Fiscal Year ended March 31, 1921

Occupation										Destination									
Clerks, Traders, etc.			Miners			Female Servants	Not Classified												
Males	Females	Children	Males	Females	Children		Males	Females	Children	Nova Scotia	New Brunswick	Prince Edward Island	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon Territory
4	1	...	...	...	...	8	4	10	13	1	2	...	7	30	3	7	7	6	...
...	...	...	...	...	...	...	2	2	1	...	...	...	2	4	...	...	...	...	...
...	...	...	...	...	...	...	...	...	3	...	...	...	...	1	3	...	...	...	...
2	...	1	...	...	...	2	10	17	13	1	1	...	9	14	8	9	8	40	...
...	1	...	...	...	...	2	2	12	6	1		..	7	5	3	6	4	...	...
1	1	1	...	...	...	2	4	7	2	...	...	..	14	4	...	5	...	...	...
11	9	2	29	11	8	73	59	223	118	86	3	..	327	646	318	103	122	40	...
...	1	...	...	...	...	4	...	1	1	...	...	.	3	4	...	1	...	...	..
...	...	...	...	...	...	...	...	3	1	...	...	.	...	4	...	...	...	...	..
1,445	57	76	...	...	...	...	553	78	223	2	3	..	56	117	45	71	76	2,065	..
8	1	...	...	...	...	28	36	40	17	8	...	.	95	122	10	34	36	3	..
12	6	2	64	1	..	15	38	60	27	73	1	.	60	212	69	55	104	21	..
14	6	...	30	15	20	38	74	192	83	95	2	.	335	133	100	80	72	44	
1	2	...	..			8	5	43	23	...	...	..	25	22	22	47	15	5	
...	...	...	.	..		...	1	...	...	...	...	...	...	1	..	..	...	...	..
940	970	196	730	154	157	4,607	2,383	8,418	5,325	1,284	463	30	4,873	25,113	3,933	3,894	3,740	4,353	4
235	167	21	25	2	1	861	347	896	454	99	41		779	3,454	733	431	369	478	..
598	529	96	450	84	133	2,427	750	3,020	1,891	354	141	18	2,158	9,782	1,996	1,404	1,383	2,012	..
19	18	4	47	9	15	79	55	185	101	38	6	...	70	404	64	93	145	123	..
15	8	1	3	...	...	10	38	103	57	2	2	...	123	198	4	2	14	12	...
49	16	11	...	...	...	74	95	214	156	4	3	..	433	348	74	28	24	6	...
1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
40	15	4	...	...	...	86	148	423	436	16	16	...	344	1,080	62	52	29	1	..
17	6	...	...	...	...	7	39	44	29	6	10	...	101	103	16	3	1	2	...
...	...	...	...	...	...	...	...	2	1	...	...	...	...	1	...	...	...	9	...
29	6	3	132	12	5	131	184	459	311	175	22	...	606	2,320	94	48	244	371	...
...	...	...	...	...	...	5	1	1	...	1	.	...	7	9	1	...	...	...	...
16	30	8	...	2	...	4	33	84	12	...	..	...	...	5	...	2	11	514	...
1	...	...	3	...	...	10	10	20	10	3	.	..	9	53	5	10	5	4	..
...	...	...	...	...	...	...	...	...	...	...	...	...	5	..	...	2	9	...	..
1	2	...	...	...	...	6	13	27	31	3	6	..	6	119	1	...	2	3	...
1	...	...	...	...	...	...	...	...	...	...	..	...	1	...	...	...	...	...	...
2	...	...	...	...	...	46	14	9	10	61	2	...	40	40	...	..	1	...	...
2	...	...	10	7	4	221	20	135	296	706	51	1	124	144	1	..	9	6	..
..	3	1	...	...	...	1	4	13	6	1	...	...	3	11	2	3	4	16	...
.	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	..	..	..	..
184	40	32	4	2	3	261	297	775	736	29	15	..	1,093	2,186	239	278	134	21	..
.	.	...	1	...	...	...	...	...	...	...	...	...	...	1	..	..	..	...	..
6	.	...	1		...	1	11	6	5	1	.	..	35	27	..	1	..	1	..
...	...	...	...	...	...	...	...	3	1	...	...	..	4	.	...	..	..	...	..
58	27	25	1	..	...	65	86	183	152	3	5	.	514	173	75	162	37	..	..
75	10	4	3	..	...	32	156	96	52	8	10	...	623	275	51	64	29	17	..
4	4	..	8	1	...	77	200	123	73	2	2	..	133	1,121	13	14	57	59	..
11	...	...	1	..	...	27	48	22	21	22	17	.	93	68	93	85	116	17	..
3	...	...	...	...	...	11	3	5	11	...	...	..	1	.	33	9	6	1	..
4	1	..	1	1	...	32	39	32	17	7	2	...	28	50	48	122	116	56	..
9	2	..	2	...	...	57	44	35	22	9	4	...	79	156	104	140	123	100	..
3	...	...	42	...	...	1	8	4	5	57	9	..	84	37	9	..	1	5	..
8	1	...	3	1	2	18	24	20	12	4	...	..	64	58	21	50	23	15	...
...	...	...	...	...	...	...	3	...	2	...	...	..	4	3	...	...	1	..	...
2	1	...	...	...	...	...	1	1	...	...	...	..	3	3	2	...	...	..	..
...	...	...	...	...	...	8	9	25	4	...	...	..	11	73	...	...	1	..	...
.	...	...	...	...	...	..	2	...	...	...	...	..	3	6	...	...	...	..	...
42	26	24	...	...	...	34	36	80	72	6	13	..	280	123	11	5	4	1	...
39	1	.	1	...	...	5	76	17	17	3	2	..	288	166	19	8	5	..	...
.	4	1	...	1	...	7	9	16	36	9	4	...	12	55	2	7	9	12	...
4	1	.	..	...	...	41	8	7	10	37	8	...	44	19	1	...	1	.	...
3,916	1,973	513	1,591	303	348	9,432	5,983	16,191	10,905	3,217	866	49	14,019	49,107	8,289	7,335	7,097	10,439	4

STATEMENT of Rejections, by Causes and Nationalities, at Ocean Ports, from December, 1902, to March 31, 1921

	Fiscal Year																			
	1902-1903	1903-1904	1904-1905	1905-1906	1906-1907 [1]	1907-1908	1908-1909	1909-1910	1910-1911	1911-1912	1912-1913	1913-1914	1914-1915	1915-1916	1916-1917	1917-1918	1918-1919	1919-1920	1920-1921	Totals
By Causes																				
Accompanying patients	16	...	13	39	21	58	60	42	104	53	28	76	58	4	8	1	...	9	13	603
Alien enemies	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	4	4
Bad character	...	...	12	1	61	181	87	98	122	112	80	102	56	17	4	11	4	1	9	956
Contract labour	...	...	...	...	...	23	...	33	28	3	...	...	...	...	...	...	1	1	...	92
Criminality	...	...	1	6	7	17	6	9	10	5	4	3	2	4	...	1	...	3	14	93
Head tax	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	10	...	...	6
Lack of funds	...	...	...	1	...	85	67	34	1,038	246	204	994	452	38	55	19	27	28	255	3,526
Likely public charges	...	49	56	73	57	292	66	681	274	164	56	76	71	55	55	19	...	125	236	2,432
Medical causes	257	225	529	404	264	513	216	585	585	256	328	398	319	34	30	12	19	21	99	5,094
Not complying with regulations	...	...	...	...	30	3	7	33	48	119	55	178	40	11	22	8	7	474	291	1,326
Previously rejected	...	...	...	...	...	...	...	...	1	8	1	...	...	...	...	...	...	...	...	10
Unskilled labourers for B.C.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	32	32
Totals	273	274	611	524	440	1,172	509	1,515	2,210	972	756	1,827	998	163	174	71	70	662	953	14,174
By Nationalities																				
British	2	8	13	76	61	130	146	183	233	227	161	171	169	42	28	5	11	108	193	1,967
American	...	...	27	17	17	63	2	13	20	2	14	12	29	28	15	11	9	8	11	298
Other Countries	271	266	571	431	362	979	361	1,319	1,957	743	581	1,644	800	93	131	55	50	546	749	11,909
Totals	273	274	611	524	440	1,172	509	1,515	2,210	972	756	1,827	998	163	174	71	70	662	953	14,174

[1] Nine months.

STATEMENT of Deportations, after having been admitted, by Causes, Nationalities, and Provinces, from December, 1902, to March 31, 1921

	Fiscal Year																			
	1902-1903	1903-1904	1904-1905	1905-1906	1906-1907[1]	1907-1908	1908-1909	1909-1910	1910-1911	1911-1912	1912-1913	1913-1914	1914-1915	1915-1916	1916-1917	1917-1918	1918-1919	1919-1920	1920-1921	Totals
By Causes																				
Accompanying patients	4	3	1	4	35	26	21	..	18	17	16	10	34	5	9	39	10	18	37	307
Bad character	....	1	....	4	....	30	71	44	71	120	165	159	128	68	60	84	35	22	52	1,114
Criminality	....	1	8	1	12	68	115	130	172	242	334	376	404	329	277	274	236	334	586	3,899
Medical causes	49	61	58	110	126	392	467	212	222	229	370	570	379	206	98	39	70	123	133	3,914
Not complying with regulations	..	....	....	....	..	..	..	..	12	8	4	4	..	.	..	.	.	..	..	28
Public charges	14	19	19	18	28	309	1,074	348	289	343	392	715	789	635	161	91	103	158	236	5,741
Totals	67	85	86	137	201	825	1,748	734	784	959	1,281	1,834	1,734	1,243	605	527	454	655	1,044	15,003
By Nationalities																				
British	50	69	74	112	168	607	1,235	486	458	540	559	952	877	602	186	36	99	184	295	7,589
American	.	.	.	2	8	37	98	119	169	256	377	405	461	437	324	407	279	392	616	4,387
Other Countires	17	16	12	23	25	181	415	129	157	163	345	477	396	204	95	84	76	79	133	3,027
Totals	67	85	86	137	201	825	1,748	734	784	959	1,281	1,834	1,734	1,243	605	527	454	655	1,044	15,003
By Provinces																				
Maritime Provinces	...	2	..	3	2	14	19	24	25	13	45	45	55	48	19	18	22	22	52	428
Quebec	18	16	11	27	41	136	684	97	165	186	208	371	397	236	108	123	96	118	174	3,212
Ontario	3	3	8	19	79	383	907	378	349	348	419	574	543	461	233	166	162	247	375	5,657
Manitoba	..	.	.		66	226	48	97	121	174	230	334	199	143	40	59	21	40	66	
Saskatchewan	46	64	67	88	3	19	27	19	23	35	44	59	85	96	54	37	31	30	52	3,859
Alberta	..	.	....	...	4	24	14	63	55	95	131	164	224	114	34	30	19	57	88	
British Columbia	....		....		5	23	49	56	46	108	204	287	228	145	116	91	103	141	237	1,839
Yukon Territory	..	..	....	..	1			.		.	.	.....	3	..	1	3	...	....	.....	8
Totals	67	85	86	137	201	825	1,748	734	784	959	1,281	1834	1,734	1,243	605	527	454	655	1,044	15,003

[1] Nine months.

The following is a statement showing literature ordered during the fiscal year 1920-21:—

Atlas of Canada	186,300
Canada West	606,600
Eastern Canada	92,150
Canada, Where, When and How	300,000
What British Editors Say About Canada	100,000
Women's Work in Canada	30,000
Leaflets of Letters from Successful Settlers	65,000
Immigration Facts and Figures	1,500
Value of An Immigrant	5,000
Canada To-day	3,000
Canada, the Land of Opportunity	1,000
Occupations for Trained Women in Canada	200

REPORT OF THE CHIEF CONTROLLER OF CHINESE IMMIGRATION, W. D. SCOTT

During the fiscal year ended March 31, 1921, 2,435 persons of Chinese origin entered Canada, of whom 1,550 were admitted as exempt from head tax and 885 upon payment of $500 each. The first head tax of $50 was imposed upon Chinese in 1885; this amount was increased to $100 on January 1, 1901, and to $500 on January 1, 1904. For the purpose of comparison, the following table relating to Chinese immigration is given:—

Fiscal Years	Exempts	Paying Tax	Percentage of total arrivals admitted exempt	Registered for leave	Total revenue
					$ cts.
1912-13	367	7,078	4·93	3,742	3,519,242 00
1913-14	238	5,274	4·32	4,143	2,644,593 00
1914-15	103	1,155	8·19	4,373	588,124 00
1915-16	68	20	77·53	4,064	19,389 00
1916-17	121	272	30·79	3,312	140,487 00
1917-18	119	650	15·47	2,907	336,757 00
1918-19	267	4,066	6·16	3,244	2,069,669 00
1919-20	181	363	33·27	5,529	538,479 00
1920-21	1,550	885	63·66	6,807	474,332 00
Totals	3,014	19,763	13·24	38,121	10,361,072 00

The average of Chinese immigration, per year, during the nine years included in the above table was 2,531. For the year 1920-21, the number of arrivals was 2,435, a slight decrease as compared with this average. Compared, however, with the preceding year, immigration of this class shows a decided increase. The revenue derived from Chinese immigration is quite large, amounting, on an average, for the period shown in the table, to $1,151,230 per annum.

REPORT OF THE SUPERINTENDENT OF EMIGRATION FOR CANADA IN LONDON, J. OBED SMITH

Conditions, which made for length of letters and increase of communications, referred to in my annual report of the previous year, have continued and increased to the satisfaction, I believe, of all concerned. It is conceivable that intending emigrants, by their more intelligent and exhaustive inquiries, thus indicate greater acceptability for Canada, and it will be our strenuous desire to so cultivate the questioning habit of intending emigrants that not only shall their selection be as nearly perfect as possible, but no one shall go to Canada without being fully advised on all details, not only on this side of the Atlantic and on the voyage, but as to the true conditions of the labour market, etc., in Canada.

In order to accomplish this, it is very essential that Dominion emigration agents here, who are all men of Canadian experience, should have frequent opportunities of visiting the Dominion and gather the latest and most authentic information on points of interest and to the welfare of the emigrant. It is proposed that, during 1921, two of our agents shall visit Canada for a month or two in the late summer or fall, to be followed next year by others who have not had the opportunity of visiting Canada for four or five years, and here I must again refer to the essential responsibility placed on officers of this department whereby they shall be equipped with intelligence, patience, sympathy, and wisdom, because those whom they seek to advise are depending upon this section of Canadian Government activity to realize the ambitions of a whole family for a lifetime. Very little consideration by the people of Canada will be needed to justify the selection of the very best men and women for the Emigration Service under conditions financial and otherwise, and to give through them the very best advice and assistance to the British emigrant, who, it is laid down by the Canadian Parliament, is the desirable basis of new immigration into Canada.

A change in the location of the head office premises has been made from 11-13 Charing Cross to 1 Regent street. It is a change long overdue, and was only deferred by lack of accommodation which the minister considered suitable for the purposes of the department on a practical and economic basis. We have in these new premises, on the ground floor, separate interviewing and waiting rooms for women, and are able to provide desk accommodation for several Provincial Governments, if they should be appointed. On the same floor are the general inquiry offices for men, in immediate telephonic communication with every other section of the service in the same building.

On the second floor—which was taken over from the Canadian Department of Trade and Commerce—are administrative and other sections, and the wisdom of the move has already been clearly demonstrated, the convenience of the emigrating public being more than satisfied. The site is one that is developing rapidly in public acquaintance and popular approval. Past 11-13 Charing Cross there were seventeen motor-bus routes, while passing the new premises twelve such motor-bus routes are already in full operation. The Bank of Montreal is immediately opposite; we are within a stone's throw of the large steamship and railway corporations, and recently the Overseas Settlement office—having charge of the emigration movement of the Imperial Government—have moved to premises within eight doors of this office. Whereas twenty years ago the Canadian Government Emigration Service was the nucleus of the movement of Canadian interests to the west end of London, already the new location bids fair to become again the centre of widespread Canadian activities. The department is to be congratulated on the excellence of the new office arrangements, giving double space for the staff, with very little increase in cost.

Inquiries in France and, generally, in Switzerland are still referred to the General Commissioner for Canada in Paris, who, in turn, refers the same, when

necessary, to this office for decision, but all other correspondence from all continental countries, allied, neutral and foreign, come direct to us here for translation and are dealt with at first hand. The very necessary inspection of continental emigrants at the ports of Antwerp and Havre alone have disclosed conditions which in my various reports to the department make it clear that this operation has resulted in preventing very large numbers of undesirable continentals from taking passage to Canada with a mere chance of being admitted. The stringent restrictions of the American officials must be followed by similar safeguards for Canada.

Our agent at Peterborough, with linguistic ability, has done very special work in this regard, which ought to be continued and enlarged as a safeguard against the admission of undesirables to the Dominion. In order that all booking agents on the Continent of Europe should be fully seized with the Regulations of the Immigration Law, I distributed amongst them, and to all who could possibly be interested, including consular officers of various countries, the following circular on January 1, 1921:—

CANADIAN GOVERNMENT EMIGRATION REGULATIONS

1ST JANUARY, 1921

The Canadian Government Department of Immigration and Colonization continues to maintain and never delegates or abrogates its rights to apply such immigration regulations as are required to carry out the policy adopted by the Canadian Parliament. These regulations may vary from time to time dependent upon financial, commercial, industrial and labour conditions in Canada generally or in any locality.

CANADIAN GOVERNMENT IMMIGRATION REGULATIONS—

Prohibited Classes.—The Canadian Immigration Act prohibits the landing in Canada of the following:—

(*a*) Idiots, imbeciles, feeble-minded persons, epileptics, insane persons and persons who have been insane at any time previously.
(*b*) Persons afflicted with tuberculosis in any form or with any contagious or infectious disease which may become dangerous to the public health.
(*c*) Immoral persons and persons who have committed crime involving moral turpitude.
(*d*) Professional beggars or vagrants; persons afflicted with chronic alcoholism and persons likely to become a public charge.
(*e*) Anarchists, persons who disbelieve in or are opposed to organized governments, including those who belong to organizations holding such views.
(*f*) Immigrants who are nationals of Germany, Austria, Hungary, Bulgaria or Turkey.
(*g*) Persons who have been rejected at a Canadian port or who have been deported from Canada.
(*h*) Immigrants who do not go to Canada from the country of their birth or citizenship by continuous journey and on through tickets purchased in their own country or prepaid in Canada.
(*i*) Persons over 15 years of age who are are unable to read.
(*j*) Immigrants who are dumb, blind or otherwise physically defective. Under certain conditions individuals of this class may be admitted but only after special reference to the undersigned

Persons not included within any of the foregoing prohibited classes, who upon examination by a medical officer are certified as being mentally or physically defective to such a degree as to affect their ability to earn a living.

Money Regulations.—Immigrants arriving in Canada between January 1 and March 31, 1921, must have of their own money, in addition to transportation, the sum of 250 Canadian dollars and a further sum equivalent to 125 Canadian dollars for every member of the family over 18 years of age, and 50 Canadian dollars for each child over 5 and under 18 years of age. For immigrants arriving in Canada between the 1st of April and the 31st October, 1921, the amount of money is 25 Canadian dollars and 12½ Canadian dollars respectively. The department may exempt from the money qualification a wife and minor children, being children under 14 years of age, provided evidence is submitted showing that the husband (1) was legally admitted to Canada, and (2) is willing and able to maintain his wife and such minor children. At the present time, all other relatives of persons in Canada must strictly comply with regulations.

Unaccompanied Women.—All women going to Canada to settle must have an emigration permit from the undersigned unless accompanied by husband, father, mother or such other relative as may be approved by the undersigned. These regulations are made in the interests of the newcomer, and the control of all new arrivals in Canada remain effectively in the hands of the officials of the department.

The Canadian Immigration Act provides that the Governor in Council may by proclamation or order whenever he deems it necessary or expedient:—

(*a*) Prohibit the landing in Canada or at any specified port of entry in Canada of any immigrant who has come to Canada otherwise than by continuous journey from the country of which he is a native or naturalized citizen and upon a through ticket purchased in the country or prepaid in Canada.

(*b*) Prohibit the landing in Canada of passengers brought to Canada by any transportation company which refuses or neglects to comply with the provisions of this Act.

(*c*) Prohibit or limit in number for a stated period or permanently, the landing in Canada or the landing at any specified port or ports of entry in Canada, of immigrants belonging to any nationality or race or of immigrants of any specified class or occupation by reason of any economic, industrial or other condition, temporarily existing in Canada or because such immigrants are deemed unsuitable, having regard to the climatic, industrial, social, educational, labour and other conditions or requirements of Canada, or because such immigrants are deemed undesirable owing to their peculiar customs, habits modes of life and methods of holding property, and because of their probable inability to become readily assimilated or to assume the duties and responsibilities of Canadian citizenship within a reasonable time after their entry.

Some of these regulations may be in force on arrival of immigrants at any time in Canada. The Canadian Government is most anxious to prevent passengers being booked to Canada unless such are reasonably sure of being able to comply fully with the Canadian Immigration Regulations.

On December 1, 1920, I distributed to all booking agents and others concerned the following:—

SPECIAL NOTICE TO BOOKING AGENTS

Under the authority of an Order in Council of the Canadian Government now immediately in force, the landing money requirements set out in our Memorandum dated 22nd September, 1920, have been amended to provide that all immigrants of mechanic, artisan or labouring classes, whether skilled or unskilled, arriving in Canada between the 1st January and 31st March next must possess $250 landing money, and if married (in addition) his wife must have $125 landing money, and each child between 5 and 18 years, $50 landing money. This will not apply to persons who have been specially authorized to proceed and have our landing cards, and undue hardship will not be caused to those of the classes herein mentioned who sail before you receive this notice.

Present unemployment conditions in certain parts of Canada have made this additional precaution necessary.

(Sgd.) J. OBED SMITH,
Superintendent of Emigration for Canada.

This proved effective in stopping the arrival in Canada of thousands of persons during the winter season for whom no work was available, and is evidence of the immediate and direct application of instructions from the department which special circumstances render it necessary to issue.

Later on, it appearing that employment conditions in Canada were not as satisfactory as they might be, on March 21, 1921, on authority of Order in Council, I issued the following:—

SPECIAL NOTICE TO BOOKING AGENTS

Under the authority of an Order in Council of the Canadian Government passed on the 19th instant, and immediately in force, the landing money requirements have been extended indefinitely, and from the date hereof and until otherwise notified, all immigrants of the mechanic, artisan or labouring classes, whether skilled or unskilled, arriving in Canada after this date must possess $250 landing money, and if married (in addition) his wife must have $125 landing money and each child between 5 and 18 years, $50 landing money. The immigration agents at the port of landing continue to have power to absolve from this money regulation farm workers and domestic servants arriving in Canada for the purpose of engaging in and continuing in these respective occupations.

(Sgd.) J. OBED SMITH,
Superintendent of Emigration for Canada.

Since the distribution of the same there have been some cancellation of passages of those who apparently were seeking skilled employment in Canada, but could not comply with the increased monetary regulation.

During the past fiscal year, we have continued to follow closely the policy laid down under which skilled workers would be permitted to arrive in Canada:—

1. Wages and conditions to be satisfactory to our department.
2. Housing and social conditions to be available and satisfactory.
3. That the skilled workers desired could not be obtained elsewhere in the Dominion.

This continues to be the groundwork on which rests the movement of skilled workers to Canada so far as this branch of the service is concerned, and there is no

question the movement is now confined to those who are really needed and they go to conditions which may reasonably be expected to prove satisfactory.

With the exception last above mentioned there has been consistent and continuous regard for the policy laid down by the department from year to year, that Canada's demand is only for workers on the land and female domestic servants. This has naturally limited the number of arrivals in Canada, but the wisdom of the Canadian Parliament in this respect is amply manifest. Still, it seems desirable that arrangements be made to encourage and settle farm workers who have families. They need financial help and a guarantee of home and employment. They would prove a real asset to Canada.

Regarding the selection of household workers and control of other unaccompanied women, the regulations set out in my report of the previous fiscal year still obtain. Unaccompanied women are required to obtain before embarkation an emigration permit, which is based upon medical certificates and other forms which have been completed and considered by the emigration agents in the various areas concerned.

In this connection, the steamship companies undertook to place matrons on all their steamers, so that our system of Government conductresses—which through lack of numbers never covered more than a portion of the sailings—disappeared. All the conductresses left the service save three who became our women's officers here, and their training in Canada and the British Isles, and on their numerous voyages across the Atlantic, proved to be of inestimable value; they well represent the type of woman whose appointment is urgently required in connection with our work here.

The result of our persistent demand for improved accommodation, particularly for third-class passengers going to Canada, has resulted in very considerable improvement in the character of the berthing and other arrangements on ocean-going steamers, and though transportation charges are still much beyond the ability of the average working-class person to pay, there is some satisfaction in knowing that they are getting nearer an adequate return for their money than they did some years ago. Arrangements at the various ports of landing in Canada have been much improved and much care is given to new arrivals.

We have not found it necessary to institute on behalf of the Canadian Government any legal proceedings against any person for acting contrary to the interests of emigrants to Canada, but, as in previous years, we have supplied information which led to police prosecution of several acting against the welfare of emigrants in general and Canada in particular. In such cases, conviction and punishment followed. We watch with peculiar interest all avenues through which it may be possible for unscrupulous persons to take advantage of any unwary settler.

During the year, we have had constructed and placed upon the road a large exhibition motor-wagon, which is a true missionary of Canada in the agricultural areas. This motor-car, in charge of an officer of Canadian residence and experience, travels from village to village and from school to school, and even stops at the hedgeways to discuss Canada with men at work in the fields. We are carrying Canada to the classes Canada calls for. The distribution of pamphlets and atlases to school children proceeds morning, and afternoon and evening. The car, opened and lit up, is the platform from which our officers lecture to the public in the market-place. Our best emigrants are secured from country places, but one such missionary as this motor-car is not nearly sufficient for our purposes.

No figures are available from records of the Imperial Government of emigrants from the British Isles. The publication of such figures ceased at the outbreak of war, and has not been thus far resumed, but the Overseas Settlement office of the Imperial Government is very active, and has been obliged to augment its staff very largely to cope with the increasing number of inquiries of British people desiring

to settle overseas: its staff of less than a dozen before the war numbers considerably over one hundred at the present time.

The sailings of passenger vessels to Canada during the past year have been increasing in number, but owing to conditions on this side of the Atlantic, which limited the financial capacity of intending emigrants, and later on conditions of unemployment in Canada, these facts resulted in some vessels to Canada not having sold all their available space; indeed, there was such a falling off in British passengers on account of restrictions made by the department, and others not made by the department that appealed to other people, that steamship companies felt bound, in order to maintain a service at all, to seek continental emigrants in large numbers. This resulted in a number of persons who could not be satisfactorily absorbed into Canada, starting from their homes in Central and Eastern Europe, only to be refused permission to embark for Canada at continental ports, and those who did proceed were in a number of cases refused admission at the port of landing in Canada.

For lack of office accommodation and departmental machinery on the Continent, the full control of the movement of continental passengers has not been possible, but much good effect has resulted from the efforts of our officers attending embarkations on the Continent, and that, at least, must be continued until departmental machinery is again established and can take more certain control of foreign-speaking emigrants who desire to make their homes in Canada.

During the past fiscal year, the official files in London were increased by 160,611 attachments, and during the same period 5,411 parcels of literature were forwarded, including 82,000 school atlases among 331,000 pamphlets.

There were given, during the past year, 354 lectures by our officers on Canada, all, without exception, being successful in point of number, and profitable in point of interest. It is hoped that the efforts of our agents may be supplemented by the appointment of capable women and men lecturers for a few months during the coming winter season.

During the past twelve months, the stock of lantern slides has been largely replenished, old and out-of-date slides disposed of, and as we have had our new sets duplicated many times, we have been able to send out from this office alone sets of lantern slides for 236 lectures, given by schoolmasters and others and not by the agents of the department.

The agents of the department at all the ports where passengers embarked for Canada have given close attention to the character of the accommodation on the steamers, the character of the personnel in charge of the women's sections, and the character and condition of intending emigrants proceeding on board. We have no authority to reject any one for Canada, but the steamship companies are very glad to have an opinion expressed by the authorized agent of the department that such and such an emigrant could not comply with certain regulations of the Immigration Law. If after this expression of opinion the companies take forward the passengers, they are still subject to very close inspection at the port of landing. In view of the stringent instructions of the department regarding health conditions affecting emigrants, this feature of the special duties of our agents has been very largely increased, and I doubt not the result of their efforts has been to lighten the labours of inspection at the port of landing, and also to prevent persons going forward who have little or no chance of being accepted.

During the year, 48,017 persons called at this office in London regarding emigration and other matters in connection with Canada.

I desire to express my appreciation of the value of the hearty co-operation which the various agents-general in London, and other officials of the provinces of Canada, give to the work of our department. There continues to exist the most complete cordiality and co-operation and an interchange of ideas that never fails to be beneficial.

There are still military dependents over here to be repatriated, and we are still issuing warrants to those entitled.

The letters from successful settlers, which have been sent over during the year in pamphlet form, make ideal emigration propaganda; they appeal to the reader at once as being the unbiased opinion of an individual and not that of a department, one of whose chief aims is to secure immigrants. So excellent a publication must be continued and hundreds of thousands of these booklets supplied to us from time to time.

The advertising in newspapers induces the publication of news items, which are prepared from week to week, and I am satisfied the advantage to Canada by the publication of these general items of news exceeds many times the cost.

During the year, we have utilized a weekly cablegram from Ottawa by making the important items thereof into a poster, which each week is displayed in our offices and all the principal steamship and shipping offices throughout the British Isles. These items, under the heading "Latest Canadian News by Cable," arrest the attention of the public and give the latest information regarding our Dominion.

Added to the general special features of propaganda hereinbefore referred to, results show that no money expended by the Canadian Government produces anything like the excellent results which our publicity induces on this side of the Atlantic.

During the past year, we have been notified by the department and have dealt with 270 cases of deportation. This figure is eminently satisfactory as affording a mere fraction of the total arrivals at Canadian ports for the fiscal year. Probably there is no record in any other institution, public or private, dealing with human beings, showing a less loss by deportation or otherwise than does the immigration service of Canada. It is gratifying as showing that the officials of the department have been exceedingly careful in selecting individuals.

The free transportation to a port of landing in Canada for Imperial ex-service men and women has been extended for one year from December 31, 1920, and it is now possible for all those who can qualify in a military sense for this free transportation to put in their applications before December 31, 1921, and not be obliged to leave these shores until December 31, 1922.

In all these cases, besides having access to the files of the Oversea Settlement office of the British Government, we have our own information forms and medical certificates, and these, together with the personal interview, have enabled a selection to be made which has afforded many desirable additions to the population of Canada.

The following figures are given for the past fiscal year of Imperial ex-service men and women applying for free transportation:—

Cases	Accepted	Rejected	Cancelled and in hand	Total applications
Men.. .. .. (Members in family not included.)	9,093	7,272	6,206	22,571
Women .. .. (Not including domestics or other unaccompanied women paying their own transportation.)	884	22	1,398	2,304

Once again have I to appreciate officially the co-operation of the Society for Oversea Settlement of British Women and the Canadian vis-a-vis, the "Canadian Council of Women for the Immigration of Household Workers," but the demand in Canada is not any greater than it is in the British Isles, and this class of excellent settler is difficult and almost impossible to obtain. The department, therefore, is driven to a careful selection of desirable women who are not fully trained, but who, after selection and interview by our women officers, may readily be accepted as desirable acquisitions to the Commonwealth of Canada. In view of the fact that these partly trained women can obtain free transportation, it seems desirable that they should be encouraged and thereby secure a valuable asset for Canada.

The result of a visit of a special, qualified Selection Committee of the Soldier Settlement Board gave a stimulus to the work of the board in particular and Canada in general that has not yet subsided, and we expect for some time to come to reap the benefit of the visit of those experienced farmers from Canada, who, after their return to their homes in Canada, very kindly undertook to answer questions that Imperial ex-service men intending to settle on the land in Canada might put to them.

The recognized societies dealing with the emigration of children to Canada are gradually getting into their pre-war activities, and several large parties of splendid children have left these shores for the Dominion. Special care is taken to examine all these children before they leave the home institution here for the ship's side, and rejections are made at such preliminary inspection. They are further inspected before embarkation, and sometimes rejections take place there also. We have not hitherto had the assistance of a medical practitioner in these inspections to apply his skill and knowledge, but our experienced officials, men and women, seem to have been able to apply more than usual sagacity in these inspections, seeing none were rejected on arrival in Canada.

The steamship companies, however, are demanding from the children's emigration societies a guarantee against the imposition of charges or fines under the Immigration Law in cases of children being taken on the ship who may be finally rejected. The emigrating societies naturally object to this, but from the departmental standpoint it coincides with the definite and acknowledged principle that at the port of landing in Canada, and there only, is the place where rejection and acceptance can be decided. It is hoped that the stream of desirable children for Canada will rapidly increase, as they form a most acceptable acquisition to the population of any country.

Our agents in the provincial towns, as occasion permits, are personally interviewing booking agents in the large and small centres of their respective areas. My personal visits to booking agents have met with such a distinct welcome, and so decided a desire for information regarding Canada and the immigration regulations, that I am able to agree with full confidence in the opinion expressed by our own agents, that the more visits they pay to outside booking offices the better for all concerned. When decisions are difficult for those of us who are constantly in touch with changing conditions and changing regulations, it is not surprising that the difficulty is much enlarged for booking agents who have to rely upon periodical circulars without the added advantage of other detailed information that becomes available to departmental officials between the publication of one circular and another. Booking agents being undoubtedly of great value and the constant allies of this emigration service, it is our bounden duty to assist them in their work in every way possible.

Inasmuch as most of the booking agents utilized the bonuses they obtained on certain specified classes of emigrants to advertise their business for Canada, it is hoped that any consideration possible for their financial welfare will not be overlooked.

No change has been made in the passport regulations and system since the last annual report. These documents are not required to admit to Canada, but they are still necessary to admit Canadians and others to the British Isles.

During the year our agents have been busy giving lectures on Canada in general to adults and to school children, and they report that nowhere has there been anything but successful and enthusiastic interest regarding the Dominion.

Like every other expenditure in the British Isles, public and private, the cost of suitable displays at exhibitions and shows has been doubled and trebled. Sufficient ground space in any large exhibition for a five-day show would cost $1,200 for the one event, and this seeming excessive, we shall endeavour to arrange for some-

thing almost as effective in connection with the same exhibition at considerably less cost. A large supply of exhibits is now on hand and we decorate all our office windows.

There is no branch of our work more productive of general good for Canada and even Canada's trade than suitable and adequate exhibition of Canada's natural resources and products. We exhibited at 153 shows during the year, and probably two to three million people inspected Canada's products.

Very excellent results were obtained from several days' conferences among the emigration agents themselves, but particular advantage accrued from the conferences we had with the honourable the minister and the secretary of the department. The multifarious character of the inquiries and the conditions in Canada which change so rapidly cannot be adequately forwarded to the agents in our provincial areas by correspondence. They meet in conference with myself and return to their duties feeling more fully equipped for work in their particular district from having exchanged ideas with other agents, and discussed in detail many matters apparently of minor importance in themselves but which may in an individual case be of the most direct importance to the welfare of a new settler.

I record with very special gratitude the unfailing and unselfish support of every member of the staff. The hours of the clock have no significance to them when work for Canada has to be accomplished; they are intensely loyal to the department and to Canada, and add to this devotion very sincere and personal consideration for the welfare of every emigrant coming directly or indirectly within their sphere of influence. No service of the Canadian Government can begin to produce anything like the results in the building up of information of the huge natural resources that would follow the work of this department if an extension of its propaganda materialized. In other words, if Canada wants to settle the Dominion with a large number of desirable people she must give more attention to that branch of public work than to any other.

REPORT OF COMMISSIONER OF U.S. EMIGRATION, W. J. WHITE

"I am writing you, in the hope that you may be able to send me a further supply of literature to supplement that already mailed to me, and which I have found useful in my geography classes. The pupils take a great interest when the classes take up the study of 'Canada.' Another school is anxious for some of your maps and pamphlets, and I have suggested to the teacher that she write you."

Letters, from which the above is an extract, give to those who may have some doubt, some conception of what the work of the Department of Immigration is accomplishing in the United States. These letters are written by teachers in a number of the states selected for the purpose, acknowledging receipt of pamphlets and maps prepared especially from an educational standpoint, by trained and experienced Canadian educationalists. They deal with all sections of the Dominion, and cover every subject that would be of value in work for the purpose intended. There are very few schools in six of the largest and most populous states that were selected in which there is not being carried out the process of education outlined by the department and furthered through the gratuitous circulation of pamphlets and wall maps.

I have watched with the closest interest the development of this system of imparting to the growing generation of the United States the knowledge of a country larger in area than their own, lying to the north of them. It has been gratifying to see this growth and development and to observe that there is the warmest sympathy evinced on the part of those who have so willingly co-operated in their efforts to educate the children of their schools. I feel that no effort made by our government will be more fruitful of results which will become more apparent year after year, and in succeeding

years, and have a greater influence in cementing the bonds of friendship and good will now rapidly becoming more and more apparent. I would like to see this class of our work developed and a larger appropriation made to meet this expenditure during the coming year than in the past, that we may be able to add not only six states but twice that number to the list. We have been very successful in what we have done, and there should be no falling back. The interest now is widespread, the demand for the literature and maps is widespread, and there should be placed in our hands sufficient money to duplicate what was done in the past year. During the coming year and each succeeding year, the development of this programme should not be lost sight of.

With the Exhibition Branch made a branch of the Department of Immigration and Colonization, there has been strength given to that portion of the educational propaganda that has been of great benefit. The preparation of exhibits of many resources of the Dominion and their installation at various fairs held annually throughout the United States, has augmented our efforts in giving practical demonstration of what Canada can produce, and a splendid idea of her great resources in mine, wood and field. Wherever these exhibits were placed, and we were fortunate enough to have in the neighbourhood of one hundred of them placed in different parts of the States, from the Atlantic to the Pacific, there was a wonderful degree of interest shown. The practical service of the articles in the display was made very strong. In addition, the artistic touch which was carefully given, rivetted marked attention. Neither was sacrificed to the advantage of the other, and thus their value was increased. The agents of the department, qualified in every way, and fitted from experience and education to answer questions, not only regarding the articles on exhibition but also able to impart information as to any of the resources in all parts of Canada, were constantly in attendance.

In addition to these exhibits, similar exhibits are installed in most of our offices. In Chicago and St. Paul wonderfully attractive and interesting exhibits have been placed.

It is also a pleasure for me to acknowledge the kindness and consideration shown to our representatives by those having control of the fairs at which exhibits were installed, and whose consent must first be secured. The character of the Canadian exhibits, their excellence, the attractive manner in which they were placed, always assured to them a warm and hearty welcome. In fact they have become popular institutions, so much so, that requests are made by fair boards and managers to have them form a part of their programme of attractions. My regret is that our resources do not always permit acceptance of all of them. I only wish that an appropriation is made sufficiently large that this class of work, as well as that of carrying on our programme of educating the rising generation of the United States through their schools, on Canada and Canada's resources, may be extended.

Some portion of the printing furnished by the department was in the nature of maps and pamphlets intended for and used in the schools in the United States, in order to effectively carry on the work the character of which the opening lines of this report have indicated. The advertising cost covered attractively displayed advertisements in the large and influential farm papers and country weeklies having circulation in territory in which it was thought possible to get such farm settlers as were so much needed to occupy and till the vacant land of our country. The wording of the advertising set forth the advantages possessed by each province of the Dominion from an agricultural standpoint.

This advertising naturally brought in a large number of inquiries. These inquiries received immediate attention by the agent to whom they were addressed. Literature descriptive of the section that the inquiry related to was sent or delivered to the inquirer and this was followed up by personal visit from a Canadian Government representative whenever it was possible to do so.

This was but one of the activities of the agent. He lost no trace of this "prospect." A system of education was followed up, which often was necessary, and this frequently took considerable time and created unavoidable expenses. But the agent, acting on the well-advised theory that every settler being worth $1,000 to the country, continued his efforts until he had secured the man his ticket, or that his case, while not hopeless, was one that could be dealt with later on. It is very interesting to me and would be to you, Sir, did space permit, to repeat them, to listen to the stories of our representatives, of the hours they spend in driving, sometimes through rain and storm, over bad roads, in order to reach the man who wished to know about Canada. The man has got his grasp, he is willing, but then—what about the wife. She has formed her local ties, she does not hanker for a new home, she has fears of long travel and surroundings with which she is not familiar. The ingenuity which the agent brings into action in his efforts to overcome prejudices such as this cannot fully be appreciated: to secure the consent of the wife to make a "Canada start" is often his most difficult task. This, having been brought to the attention of the department, the endeavour has been of late to present in our literature a phase of farm life and other life in Canada, that will rob a good deal of this prejudice of its undesirable angles. Therefore, pictures of children, of schools, churches, homes with comfortable surroundings, are made to do duty in our literature and I hope results will follow that will reward the effort.

A word further regarding the activities of our agents. I have pointed out that which they perform in answering inquiries, travelling over roads, good, bad and indifferent, the late hours on trains, and discomforts innumerable. Anxious for results he does not mind these, and when some degree of success follows his efforts and he has succeeded in getting the settler well started on his way, having personally assisted him in loading his car, secured his clearance papers, he feels he has accomplished something. But, sir, when he makes long and sometimes expensive trips only to find that the people he is seeking have changed their minds, for some reason or other, it is natural that a period of "gloom" overtakes him. This happens. He has assurance of getting a large party to start early in the spring, and what I am about to relate has occurred, but only within the past year, since the decline in prices of both farm land and his produce. One prospect fully intended to have moved a few weeks ago. Last fall his mind was fully made up. He had decided on his location in Saskatchewan. The representative went to his farm. But his case was hopeless. He had a large herd of Holstein cows and their sale was to give him his start in his new home. Last fall he could have sold his herd of seventy cows for $125 a head. When seen in February, the price had fallen to less than $40 a head. He may go later. But not to-day. His case is that of hundreds.

The high price to which land values went a year or so ago created a land buying and selling excitement that almost approached a boom. The deflation came quickly, the purchaser was unable to make his payment this past February, but he could not leave, although willing to lose the money he had already paid; the owner of the land had everything mortgaged, and would not permit his leaving the land, he had bought. The renter who had corn last year for which he hoped to realize in the neighbourhood of two dollars a bushel, and then going to Canada, is getting but 35 cents a bushel to-day, with cost of producing about 20 cents. He cannot go just now. The banks refuse to discount notes taken at sales, and what's the use; he cancels his sale. These are conditions that we have had to meet during a period of the year when it was naturally and reasonably expected there would be a large movement of people to Canada. The inquiries were in such large numbers and of such a character as to lead to the belief that there would be as great a movement as at any time in the history of our work. These facts should not lead to the feeling that our work has not met with success. With a record of 48,000 new settlers, taking with them in stock and

effects sixteen and a half million dollars, as a result of the year's work, there is great reason for satisfaction, when counteracting influences such as I have mentioned were at work. It is just a matter of "putting off" until conditions change. There is a greater interest in Canada and things pertaining to Canada than ever in the past, and it is increasing. The remark may still be heard in Canada, "very little is known in the United States regarding the country." In some degree it may be true, but when compared with conditions twenty-five years ago, yes, five years ago, there has come about a change that can only be realized by those who have been in touch with the situation closely, as I have been. There is a growing desire to learn more about the country, one of the best of which is possibly the demand already mentioned for an increased circulation of school literature, the supply which I trust you will make every effort to meet. The number I have mentioned as being that of new settlers would in itself indicate the increasing interest there is in Canada, and when it is considered that the figures represent those coming from nearly every state in the Union, the point is strengthened. Additional strength is given it, when the fact is stated that during the year there was not the opportunity for holding out inducements to those who wished to take advantage of free homesteads, which had a strong influence some few years ago.

Those who went during the past year were those who were going upon land which they had purchased or proposed to buy. It was found that the number of those desiring to buy was greatly increased over previous years. Here was encountered a difficulty, it being hard to advise a prospective settler into what district to go without arousing jealousy on the part of those in other districts. In the hope of overcoming this a plan was put in operation a couple of years ago to send the names of such prospects to the Land Settlement Associations, organized in the four western provinces, thus making provision to have buying "prospects" taken care of. This proved inoperative. In fact, it was found that, for various reasons, it was harmful to the work. Therefore I trust that the recommendation that I have made that this part of the work be discontinued be put into effect.

I cannot hold out any hopes that the number of new settlers from the United States will be increased during the coming year. The present outlook is that if we are able to send a number forward equalling that of 1920-21, we will be doing all that might reasonably be expected. This is owing to the local conditions that exist in the United States, which I have mentioned, and not from any less interest in Canada and the desire to get cheaper lands as productive as those they have been occupying.

The manner in which the agents have done their work has been satisfactory.

I have to report the removal by death of the oldest member of our United States staff. Mr. Malcolm V. MacInnes, of the Detroit office, a veteran in the service, one who had interested himself in sending some of the first 750 who went to Canada in 1896, died November 20, 1920. His death removed an old-time friend and a valued member of the staff. Without a mark against him in his long career of service, his whole life devoted to the interests of his native country, and his entire tenure of office one of assiduity in his chosen work of sending settlers to the prairies of the west, his death is lamented not only by the department, but by his associate agents, with whom he was a striking example of fortitude, loyalty and devotion, and also by hundreds of the thousands he was instrumental in having seek new homes in the west, there to become the happy owners of broad cultivated acres, and assist in the building up of Canada. His memory will live long.

REPORT OF THE COMMISSIONER OF EXHIBITIONS, A. W. TOLMIE

Throughout the year, the Exhibition Branch has been actively engaged in the preparation and installation of exhibits in numerous centres in the United States and Great Britain. These exhibits were practically all composed of specimens of the natural products of the Country. Samples for this purpose have been gathered in both Eastern and Western Canada. In Winnipeg, the following exhibits were prepared and shipped this year:—

265 cases containing grain-in-straw, grasses, half sheaves and rope, prepared from the following varieties: millet, wheat, oats, flax, barley, timothy, alfalfa, red top, pea vine, clover, vetches, blue joint, hemp, corn, brome grass and clover.
209 boxes containing threshed grain of various kinds.
30 boxes, honey, cheese and butter.
556 crates various vegetables.
172 boxes school exhibits of grain-in-straw, grasses and threshed grain.

During the fruit season, 256 large exhibition jars of various varieties of fruits were put up. These fruits are preserved in their natural state by special secret formula. Good samples of minerals from new discoveries were collected and shipped to headquarters in Ottawa. Exhibits of forest products, wool, maple syrup, eastern cheese and other dairy products have also been collected here.

Exhibits were installed at twenty-four state fairs in the United States, the following being a list of those attended: Jacksonville, Fla.; Tampa, Fla.; Shreveport, La.; Dayton, O.; Dallas, Tex.; Detroit, Mich.; Richmond, Va.; Springfield, Mass.; Manchester, N.H.; Helena, Mon.; Waterloo, Ia.; Syracuse, N.Y.; Trenton, N.J.; Memphis, Tenn.; Salem, Ore.; Fargo, N.D.; Huron, S.D.; Indianapolis, Ind.; Milwaukee, Wis.; Wilmington, Del.; Lincoln Neb.; Hartford, Conn.; Spokane, Wash.; Sedalia, Mo.

Each of these fairs extended over a period of from twelve to twenty-one days and were exceedingly well attended. The maximum attendance was 1,150,000, at the Texas State Fair in Dallas, and the minimum 65,000, at the Missouri State Fair at Sedalia—this was owing to the fact that the weather was very bad. Our exhibits at these fairs covered an average area of 1,200 square feet; the main features were prepared in Ottawa, and were installed by one of our experts sent out from here. After the exhibit was completed, it was placed in charge of the Government agent representing the particular district in which the exhibition was located. This agent was always in attendance to give out official information and literature to visitors. In addition to these state fairs, fifty-eight exhibits were placed in various county fairs, these shows being open to the public, on the average, about five days. The attendance was not so large as at the state fairs, owing to this fact, however, the agent in charge of the exhibit was able to devote more time to each visitor and therefore get in closer touch with prospective settlers and any others looking for information about Canada. The average space occupied was 600 square feet.

It might be well to mention specially the exhibit placed in Tampa in February. This exhibit was made as an experiment, and proved to be one of the most successful shows we have had this year. As the tourist season was at its height we had visitors from nearly all the Eastern and Middle Western States as well as from Canada, and all were loud in their praises of our exhibit which was awarded a special Grand Prix, although it was not entered for any award. As a direct result of this exhibit many landseekers and tourists have already come to Canada.

In connection with the permanent exhibit which we have in the Union Stock Yards in Chicago, we placed additional displays for the National Dairy Show in

October and the International Live Stock Show in December. Both these exhibits are held in the Stock Yards, and are attended by the very best farmers in the United States and Canada. In both instances the Canadian exhibit was a centre of attraction and was commented on favourably by the visitors and the press.

A new permanent exhibit has been placed in the exhibition room connected with St. Paul Agency. This exhibit is very artistically arranged, being inclosed in six large glass fronted wall cases and three large glass table cases, it is made up of the natural products of the country, together with photographs of different scenes from all parts of Canada. The principals of many of the schools in St. Paul have asked permission to bring their scholars to see this exhibit. It has now been arranged that at least one class visits the exhibit each week and is given an object lesson, as to what, and where Canada is, and what she produces. It is also very useful to the officials in that agency as they can at once take intending settlers or visitors in to see the exhibit and show them exactly what they may expect to find in Canada.

All New York Central main line trains between New York and Chicago pass in front of the Canadian Government office in Syracuse. There are four large plate-glass show windows in that office. These have been artistically decorated and exhibits with large display cards placed therein. This feature is at present drawing considerable attention. Material has been supplied from time to time, with which to make suitable window displays in all other agency windows.

I visited Great Britain in November in order to go fully into the matter of exhibit work there. As a result of this visit, we have secured a much better warehouse in which to store and prepare exhibits. I also found that the exhibits on hand were not sufficient to meet all demands. Additional exhibits have now gone forward, and everything points to a most successful season. Last summer, large exhibits were placed in the following shows: Bath and West, Salisbury; Royal Counties, Reading; Herefordshire, Worcester; Royal Agricultural, Darlington; Highland Agricultural, Aberdeen; Royal Lancashire, Bolto; Norfolk and Norwich; Birmingham Agricultural, Birmingham; York Fat Stock, York.

Besides this, smaller exhibits were placed in thirty county fairs and many others at different agricultural societies' shows. As there are no permanent buildings in which to house exhibits at any of these fairs, we are obliged to use tents, which we have had specially prepared, these are shipped from place to place as required.

Plans are at present under way for the coming season's work, and everything points to another successful year's operations.

REPORT OF THE DIRECTOR OF PUBLICITY, ROBERT J. C. STEAD

For purposes of review the publicity work of the department may be divided into the following classifications: Advertising, literature, news and feature articles, lectures, motion-pictures, editorial parties, and general.

Advertising.—The Department of Immigration and Colonization is in a somewhat peculiar position with regard to its advertising, as, for obvious reasons, all of this work is carried on in other countries. This demands not only a wider survey of conditions than would be necessary for campaigns placed in Canada, but also consideration of local or national sentiment in the countries in which our advertising is carried on. The newspaper advertising of the department has, during the year, been directed almost entirely at three types of possible immigrants: namely, farmers, farm labourers, and domestic workers. The copy has been designed to appeal to these classes, and has been placed in papers and periodicals circulating among them. Small display copy in a large number of publications is used in preference to large copy in a few publications, as covering the field more thoroughly.

During the year our advertisements appeared in upwards of five thousand papers in the United Kingdom and the United States. In addition to display advertising, paid readers setting forth conditions in Canada and the agricultural opportunities in this country are extensively used.

Literature.—Two important new pieces of literature were issued during the year: an "Eastern Canada" booklet in two editions, one designed for distribution in the United Kingdom and one for distribution in the United States, and a new edition of our "Canada West" booklet for distribution in the United Kingdom. In addition the "Atlas of Canada" and the regular United States edition of "Canada West" were reissued.

The "Atlas of Canada" is designed mainly for distribution to school teachers and school children in the United Kingdom and the United States, and it is hoped by this means to correct some of the misconceptions regarding Canada which have so long prevailed in those countries. The atlas is a substantial book of eighty pages and cover, made up in the style of a school geography. It contains maps in colour of the Dominion and of each of the provinces. In the United Kingdom edition there is a map of the British Isles, and in the United States edition a map of the United States. In addition to the maps and text matter there are some seventy-seven half-tone illustrations of scenes in Canada. One hundred and four thousand three hundred copies of the atlas were supplied during the year for distribution in the United Kingdom, and eighty-two thousand for distribution in the United States.

Our principal piece of literature for distribution in the United States is our "Canada West" booklet. A thoroughly revised edition of forty pages and cover, with maps of the western provinces and ninety-one illustrations, was issued during the year, and five hundred and nine thousand three hundred copies supplied to our agents for distribution in the United States. In addition to the United States edition of this publication we issued this year for the first time a distinct edition of "Canada West" for use in the United Kingdom. In some classes of literature it is not practicable to use the same editions in the United Kingdom as in the United States, as the information desired covers different subjects, and the angle of interest of, say, the small dairy farmer in England is quite different from that which would appeal to the big wheat farmer of Dakota. To meet the particular need of the British reader we therefore issued a special British edition of "Canada West," of which ninety-seven thousand three hundred were supplied to our agents in the United Kingdom for distribution among prospective settlers.

Another new departure this year was an "Eastern Canada" booklet designed to set forth the opportunities which Ontario, Quebec, New Brunswick, Nova Scotia, and Prince Edward Island have to offer the intending settler. This booklet is issued in the same general style as "Canada West," and there are two distinct editions—one for use in the United Kingdom and one for use in the United States. For use in the United Kingdom, fifty-five thousand eight hundred were issued, and thirty-eight thousand three hundred and fifty for use in the United States.

Other publications issued during the year include a small booklet "Canada, Where, When and How," of which three hundred thousand were printed in England; "What British Editors Say About Canada," a pamphlet with excerpts from opinions expressed by prominent British editors who visited Canada during the summer of 1920 to attend the Imperial Press Conference at Ottawa, one hundred thousand copies of which were printed; "Women's Work in Canada," a booklet designed particularly to give information to domestic workers, of which thirty thousand were printed; and leaflets of letters from successful settlers, of which one hundred and sixty-five thousand were printed.

News and Feature Articles.—The supplying of news concerning Canadian conditions and opportunities, and feature articles descriptive of certain phases of life and industry in Canada, is an important branch of our publicity work. A weekly news letter is prepared and sent out to newspapers and news distributing agencies in Canada, the United Kingdom, and the United States. Quantities of it are also

mailed to our agencies in the United States for distribution among those who may be interested. This letter is also one of the chief sources from which material is gathered for a weekly news letter issued from our London office and supplied to some fifteen hundred papers in the United Kingdom.

No less than four hundred and seventy-five special articles were prepared, edited, or revised for publicity purposes and supplied to the press in order to give information about settlement opportunities and general conditions in Canada. Clippings received show that these articles were very widely published, recorded publication obtained through one organization alone amounting to a circulation of over fifty-three million. The facilities which we have to offer in this connection are freely extended to other departments of the service, some of which have made extensive use of them.

Lectures.—Although the department is at present employing no salaried lecturers, a considerable lecture campaign is carried on, particularly by the agents in the United Kingdom, who are supplied with lantern sets and printed lecture notes covering three subjects: Agricultural Scenes and Opportunities in Canada; Industrial Development and Natural Resources of Canada, and Canada's Beauty Spots. Aside from our own agents, information and lecture material is supplied to many others as occasion presents itself.

Pressure of departmental business has prevented me from taking full advantage of opportunities extended to me personally to address clubs and other organizations upon Canadian immigration topics. I was able, during the year, to address, among others, the Rotary Club of London, England; the Rotary Club of Chicago, U.S.A., and a colonization convention held at Saskatoon, Sask.

Motion Pictures.—A start was made during the year in the gathering of negatives of motion pictures suitable for publicity purposes. By co-operation with the Exhibits and Publicity Branch, Department of Trade and Commerce, the services of Mr. W. C. Carter, a motion picture photographer, were placed at our disposal during the summer of 1920. Acting on instructions from this branch, Mr. Carter visited many districts in the Prairie Provinces and secured motion picture negatives of scenes showing farm operations in all stages from breaking the virgin soil to threshing and marketing the grain. These negatives are now being titled and assembled into motion pictures for the use of our agents in the United Kingdom and the United States. It is hoped by means of such pictures to give the intending settler a very definite idea of the conditions which exist in this country, and of the way in which farm operations are carried on. Such information, in addition to being valuable from the publicity angle, should be very helpful to the settler in making his start in Canada. While the material so far prepared has been selected with a view to giving definite information to the intending settler rather than for general exhibition in motion picture theatres, it is found to possess a very considerable amount of human interest, and arrangements are under way which will insure for it wide circulation on the regular motion picture theatre circuits.

In addition to his motion-picture work Mr. Carter took for the department some four hundred and thirty-six still photographs depicting a large variety of scenes in the Canadian West. These are proving very valuable for publicity purposes. In addition to the use we are able to make of them in illustrating our own booklets, a wide distribution of these photographs has been made, particularly in the United Kingdom and the United States. Hundreds of other photographs have also been collected and sent out, particularly for use in illustrated papers, farm journals, magazines, and encyclopedias.

Editorial Parties.—No large editorial party was entertained by the department during the year. The Imperial Press Conference was held at Ottawa, and many prominent British journalists took advantage of the occasion to obtain first-hand information about Canada. A brief synopsis of their impressions was published by this department, as stated elsewhere in this report, but their movements while in Canada

were not under the direction of this department, that duty being discharged by the Canadian Press Association. Individual journalists, some of them of international reputation, were, however, brought to Canada from both the United Kingdom and the United States under arrangements made by this branch, and much valuable publicity has already resulted.

General.—An important event during the year was the holding of a publicity conference on immigration matters. This was done at Ottawa in December last, at the instance of this branch, the provinces of Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, and British Columbia, in addition to several federal departments, sending representatives. The result was a much improved understanding of the immigration situation as viewed from the various angles represented, and the creation of a spirit of co-operation which has already borne noticeable fruit. A resolution was adopted recommending the formation of a Dominion Immigration Publicity Committee, on which there should be a representative of each Provincial Government and of federal departments interested, as well as officials of the Department of Immigration and Colonization. Such a committee is now being organized.

The settlers' letters which were received as a result of the competition held by the department a year ago were judged and the prizes paid. A number of the letters have been used to advantage in our literature.

A system of window cards for the agencies in the United Kingdom has been inaugurated, the copy being supplied by this office.

In the interests of closer relationship with our agents in the United Kingdom I spent some weeks in England and Scotland looking into immigration conditions particularly as they relate to our publicity activities there.

Evidence of the growing interest in Canada which exists in the United Kingdom, the United States, and other countries is found in the many demands made upon the publicity branch for information about immigration to Canada and about the Dominion generally. Aside from inquiries from individuals many requests are received from colleges, universities, libraries, and business organizations. A common form of inquiry is that from college students holding debates on subjects which involve Canada's resources or Canada's immigration regulations. Information for all such purposes is cheerfully furnished, it being recognized that the resultant publicity may have far-reaching effects.

REPORT OF THE DIRECTOR OF PUBLICITY, WESTERN DIVISION, J. BRUCE WALKER

The business done through the Western Division office has been greatly increased during the past year. Frequent references in the newspapers have apparently been copied in the United States, with the result that a good deal of direct correspondence between persons in the United States desirous of information with respect to Canadian farming conditions has been the result. The same newspaper publicity has caused considerable correspondence with persons in Canada, particularly in Ontario and the Maritime Provinces, seeking information as to suitable places for settlement, accurate information as to the facts of homesteading, value of land and operating conditions. It would appear that the information afforded by this office as a result of intimate knowledge of western conditions, is being to some extent, at least, fully appreciated.

During last summer, for rather more than a week, I was in attendance upon the members of the Imperial Press party, who were touring Western Canada. In view of the anxiety of the members of the party to obtain the fullest possible knowledge of the four western provinces, I had a number of interviews with leading writers in the party, and gave them a great deal of useful information, which they were good enough

to say enabled them to write with accuracy and intelligence upon the conditions existing in the West during the course of their trip. With this party I visited Regina, Edmonton, Saskatoon, and Calgary, and from my knowledge of local persons was able to bring writers on agricultural subjects representing old country newspapers, into immediate personal touch with influential agriculturists in these respective areas. From the letters I received from members of the party during their trip, and after their return home, I have reason to believe that such services as I was able to render them were appreciated.

During last summer, I observed a very considerable increase in the number of persons calling at this office, asking for information about the West. Many of these persons came in from the neighbouring states of Minnesota, Michigan and the Dakotas, and having seen in the local newspapers a notice referring to this office, called here for such information as they might be able to obtain. Quite a number of them were considering immediate settlement, but it was also obvious that a great many of them were interested in the actual conditions existing to-day, with the possibility at some future date of entering Canada for the purpose of settlement.

I have devoted a good deal of time throughout the year to encouraging and assisting the operations of the various Provincial Land Settlement Associations, established some two years ago. The economic conditions existing in the country has had rather a depressing effect upon the activities of most of the firms engaged in the purchase and sale of farm lands. In addition to this I found that, at least in the case of British Columbia, the Farm Land Association had a mistaken idea of the relationship between the department and itself. When these associations were first formed it was distinctly understood by the membership, or at least it was plainly told them, that the Immigration and Colonization Department had, as a result of its advertising propaganda in the United States, a very considerable number of inquiries as to land and land settlement in these western provinces, and if the members of good reputation and standing formed themselves into an association, properly organized and meeting the approval of the minister, it would be possible for the department to place at their disposal the names and addresses of enquirers for Canadian lands and settlement, with a view to their corresponding with them and doing business where this was possible. The British Columbia Association unfortunately seems to have concluded that the department would provide them with purchasers of vacant lands, or at least put them in touch with certain buyers. The undertaking of the department was fully carried out, but it is obvious that the department could not undertake that all correspondence would result in business, or to guarantee that any business would result. British Columbia is rather in a different position from the Prairie Provinces, inasmuch as it is not in a broad sense an agricultural province, and does not appeal in the same way to the average enquirer with respect to settlement in Canada. There were not, of course, as many inquiries respecting British Columbia, but such as were received by our United States offices were sent to the secretary of the British Columbia organization, in order that the members thereof might obtain from them such business as was possible.

A very large number of inquiries covering thousands of letters have been received by our agents in the United States during the year, and forwarded to the Land Settlement Associations of Manitoba, Saskatchewan and Alberta. The officials of these associations have also expressed a disappointment that the amount of business resulting from the inquiries was not as large as they had expected. With reference to this, it is well, however, to bear in mind that economic conditions in the United States last year, as in our own country resulted in an early and serious slump in the price of all farm products. This inevitably led to a halt in land purchase and business expansion, and we have reason to know that many persons who had contemplated and actually made arrangements for coming to Canada to settle last summer, were prevented from so doing by the falling prices and the consequences thereof. It is not,

therefore, unreasonable to expect that as a result of these conditions the number of these inquiries that portended actual business should have been somewhat disappointing. Then again it should be recognized by the members of the Land Settlement Associations that the sale of Canadian lands to any extent cannot be accomplished by means of the mail only. While intelligent and accurate correspondence may create an appetite and an interest for settlement in Canada, few men would care to embark their future or their capital, without some more intimate personal knowledge than is obtainable through correspondence. It was, therefore, pointed out to these associations that the correspondence merely placed within the reach of the associations the names of persons interested in Canadian lands, and that the sale of lands to such persons had never been markedly successful as the result of correspondence, but rather as the result of a personal interview, and that personal touch that either dissipates or creates confidence, and settles the inquirer's mind one way or another. I suggested to the members of the association that it was not perhaps sufficient to complain of the character of the inquiries, but rather that such inquiries as there were should be sifted out and the writers seen with a view of bringing them to the point where purchase and settlement was a matter of certainty.

These Western Farm Settlement Associations have all along strongly protested against the list of names being handed to the land departments of the railway companies, while these railway companies have not joined the associations and are, therefore receiving the benefits which the associations received without any monetary considerations therefor.

The correspondence received in the office, and the correspondence sent out from the office, has continued to increase, and I have reason to hope that with the return of more favourable conditions it will be possible for this office to afford to an ever widening circle an accurate and intimate knowledge of existing conditions so far as land settlement is concerned in these western provinces.

REPORT OF THE COMMISSIONER OF IMMIGRATION, PACIFIC DIVISION, A. L. JOLLIFFE

During the period under review there has been a slight falling-off in the number of immigrants admitted at ports of entry in this division as compared with the previous year which is probably accounted for by the Order in Council prohibiting the entry of labour, which has been in effect at all ports of entry since December 13, 1920.

The purpose for which this regulation was put into effect has unquestionably been accomplished, and has prevented an influx of labour during the winter months, at which period there was considerable unemployment on the Pacific coast.

The shipping handled at Pacific coast ports is steadily increasing year by year, and during the past twelve months several steamship lines have resumed sailings and inaugurated new services: there is every possibility of still greater development of this important industry.

At ocean ports the work has materially increased, the transpacific travel being exceedingly heavy; the number of tourists entering Canada on the Pacific coast is each year becoming heavier, and has now reached such proportions as to be of considerable importance to the province of British Columbia.

STATEMENT OF ADMISSIONS AND REJECTIONS AT OCEAN PORTS

	Admissions	Rejections
Vancouver	2,215	62
Victoria	1,016	18
Total	3,231	80

The total number of passengers examined and admitted at ocean ports amounted to 182,016.

STATEMENT OF ADMISSIONS AND REJECTIONS AT BORDER POSTS

	Admissions	Rejections
Aldergrove	..	8
Britannia Beach	4	..
Carson	..	6
Cascade	29	1
Dawson	47	..
Douglas	30	75
Grand Forks	143	33
Huntingdon	215	144
Midway	19	7
Myncaster	5	2
Nanaimo	2	..
New Westminster	..	2
Osoyoos	61	13
Ocean Falls	3	..
Pacific Highway	86	90
Powell River	2	..
Prince Rupert	55	8
Rossland	78	30
Rykerts	10	1
Seattle	1,487	150
Similkameen	39	1
Stewart	7	2
Sydney	2	..
Wanita	249	29
White Rock	1,302	886
White Pass	62	6
	3,937	1,494

A large number of investigations were made in the cases of persons effecting illegal entry, alleged revolutionaries, drug addicts, immoral persons, etc., resulting in deportation in the majority of cases investigated.

During the period under review 169 arrests were made, resulting in 127 deportations being effected.

Ninety-two persons were deported to the United States from penitentiaries, mental hospitals and other institutions, in addition to those deported to Europe from this district, and which appear on the records of other districts.

Sixty-two persons were prosecuted for deliberate violation of the immigration regulations, resulting in 59 convictions and 3 dismissals.

In four cases the decisions of the department were contested in the courts by Habeas Corpus proceedings, three of which were successfully defended; one applicant secured a landing as a result of a decision of the Court of Appeals of British Columbia.

The number of detentions at ocean ports has during the past three years steadily increased, and at the ports of Vancouver and Victoria increased accommodation has become necessary.

Detention quarters and office accommodation at several ports have been improved resulting in more efficient service.

The unemployment situation has caused more or less uneasiness, and as a result we have had numerous requests for the investigation of aliens who had recently entered Canada and our border staff was obliged to exercise every care in the admission of immigrants, as continued attempts were made to evade the regulations prohibiting the entry of labour. Also, determined efforts were made by Chinese to secure admission to Canada, practically every method being tried in turn.

The Labour Exclusion Order and the strict enforcement of the regulations at border ports, has resulted in a decrease in the number of immigrants admitted; rejections of persons applying for admission from the United States totalled 1,494 for the year.

The general conditions of this province are apparently not improving as rapidly as could be desired; only a few of the lumber camps are opening up, and the summer activities which usually are well under way early in April have so far not given any indication of any decided improvement.

Below will be found several statements giving statistics covering the work of this district.

PASSENGERS HANDLED AT OCEAN PORTS

	1919-20	1920-21
Total arriving at Vancouver	53,311	74,842
Total arriving at Victoria	92,044	100,875
Total arriving at Prince Rupert	5,448	6,299
Tourists entering Vancouver	52,492	72,797
Tourists entering Victoria	90,190	90,280
Tourists entering Prince Rupert	5,436	6,256
Immigrants landed at Vancouver	674	2,215
Immigrants landed at Victoria	834	1,016
Immigrants landed at Prince Rupert	10	55
Rejections at Vancouver	217	62
Rejections at Victoria	250	18
Rejections at Prince Rupert	4	8

The big decrease in the rejections at Vancouver and Victoria is due to the large number of Chinese refused admission in May, 1919, when the department closed down on the admission of Chinese who were coming forward as students.

STATEMENT OF CHINESE HANDLED

	1919-20	1920-21
Admitted on payment of tax, Vancouver	179	650
Admitted on payment of tax, Victoria	49	205
Admitted exempt at Vancouver	134	1,255
Admitted exempt at Victoria	52	296
Exempt applications rejected, Vancouver	55	103
Exempt applications rejected, Victoria	7	13
Exempt cases admitted on appeal, Vancouver	3	2
Exempt cases admitted on appeal, Victoria	2	..
C.I.9 Registrations at Vancouver	3,649	4,166
C.I.9 Registrations at Victoria	1,830	2,576
Paid tax after exempt rejection, Vancouver	36	82
Paid tax after exempt rejection, Victoria	5	5
Persons admitted in bond to other countries	1,797	6,897
Deported after rejection at Vancouver	182	41
Deported after rejection at Victoria	244	11
Bonds forfeited at Vancouver	$1,000	$9,000

Particular attention is drawn to the extremely heavy increase in the Chinese work during the past year, which has been due to the influx of alleged merchants, and the determined efforts made to evade the Labour Exclusion Order. It was found necessary to increase the staff in the Chinese Division both at Victoria and Vancouver, and at the present time these ports are hard pressed to handle the work as it should be done, and with a minimum of delay and detention to applicants for admission.

The number of applications for the admission of families of merchants has increased 100 per cent, as has also the percentage of rejections of this class, the same being 35 per cent of the total applications this year as against 25 per cent last year. These figures refer to Vancouver alone, and indicate the magnitude of the attempts which are being made to evade the provisions of the Chinese Immigration Act.

The handling of Chinese rejection cases by boards of inquiry has placed additional work on the staffs at Vancouver and Victoria, and if this work continues it will be necessary to have a board of enquiry sitting continuously at Vancouver, the members of the board to have no other work assigned to them.

The entry of alleged Chinese merchants which commenced in December, 1919, assumed alarming proportions during the past winter; the matter was brought to the attention of the department immediately this movement commenced. No doubt

the recent action taken will prevent any further labourers carrying certificates of identity applying for exempt admission.

School boys under the age of 16 years are coming forward in considerable numbers, and it is suggested that the department consider reducing the age limit, with a view of lessening the number of applicants.

There also developed last year an attempt to bring Chinese women into Canada as the wives of residents of this country, and investigation showed that in the majority of the cases these women were simply being brought to Canada for the purpose of working in restaurants, etc. Steps have been taken to put a stop to the procedure followed by bringing these women before a board of inquiry and refusing them admission as labourers, unless we are absolutely satisfied as to the bona fides of their cases.

During the year 311 boards of inquiry were held in this district as follows:—

Vancouver	237
Victoria	31
At ports other than ports of entry	43

Of these 98 were held in the cases of passengers applying for a landing, 43 on public charges, gaols, penitentiaries, mental hospitals, etc., and the balance in arrest cases; deportation was effected in 127 cases.

An analysis of the arrest cases is given in statement below:—

	Entered by stealth or misrepresentation	Entered as non-immigrant and remained	Undesirable Sec. 40-42	Entered after rejection
Arrested and deported	61	33	18	..
Arrested and admitted	4	12	4	3
Waiting deportation	3	3	4	..
Waiting decision on appeal	2	4	2	..
Escaped	1	1	..	..

Fifty-nine prosecutions were conducted under the General Immigration Act, and 4 under the Chinese Act resulting in 26 fines being paid, 29 terms of imprisonment served, 4 deportations and 3 charges dismissed.

Ninety-two persons were deported from penitentiaries, gaols and mental hospitals by officers under the jurisdiction of this office, and a number were taken east for deportation by officers under the jurisdiction of the Western District.

Only one administrative fine was applied during the year.

Below will be found a statement giving information relative to detentions in our buildings for year ending March 31, 1921:—

	1919-20	1920-21
Persons detained at Vancouver	5,128	15,191
Persons detained at Victoria	2,921	3,832
Meals supplied at Vancouver	65,748	116,084
Meals supplied at Victoria	16,418	14,079
Janitor supplies at Vancouver	$610.84	$567.19
Janitor supplies at Victoria	$98.24	$67.87
Building account balance favour of department, Vancouver	$6,243.15	$21,481.96
Building account balance favour of department, Victoria	$2,630.75	$2,754.28

We have on several occasions during the period under review found it necessary to put on a patrol officer between White Rock and Huntingdon, this being as a result of information received that undersirables were entering Canada without inspection. During one period of 30 days, 20 arrests were made.

I am glad to be able to report that this department has received the best of co-operation from the Department of Customs and other Government departments with which we have had to deal from time to time during the year, and also that the United States Immigration Service on the coast has worked with us in the closest of co-operation in the handling of all matters of interest to both services.

REPORT OF THE COMMISSIONER OF IMMIGRATION, WESTERN DIVISION, THOMAS GELLEY

Immigrants from the British Isles and Europe

In accordance with the usual custom, this office has been advised by wire when trains carrying immigrants from ocean liners have left the eastern ports en route for western Canadian points. Such trains have been met by our officers, either at Winnipeg or a short distance from Winnipeg, for the purpose of rendering any assistance or giving any information, according to the various requirements of different immigrants. My officers also inspect the coaches and make a report as to the cooking facilities, the ventilation of the coaches, the cleanliness of the toilets and wash basins, and supply of drinking water and general accommodation afforded the immigrants on their journey inland. Those immigrants who are staying over in Winnipeg for a day or so for train connections, or for other purposes, are advised of the free accommodation that can be secured at the immigration hall, and, if wishing to take advantage of same, are directed to the hall, when they alight from the train at Winnipeg.

Admissions from the United States.—The following figures show that there has been a decrease in the number of settlers who were admitted from the United States via the thirty-three border ports in this division, as compared with the last fiscal year:—

	Number of admissions	Amount of cash	Value of stock and effects
1920-21..	18,368	$1,827,479	$ 6,158,231
1919-20..	23,300	3,335,138	10,487,085
Decrease of..	4,932	$1,507,659	$ 4,328,854

Rejections from the United States.—The number of persons rejected at border ports was 1,480, as compared with 1,741 last year. Of the 1,480 persons who were rejected, 68 appealed against their rejection to the minister.

Non-Immigrants from the United States.—In addition to immigrants, we have also kept a record at each port of the number of non-immigrants who have travelled through our ports. The total for the year was 530,539. This number includes tourists and persons visiting here from the United States. In many cases, the examination of persons claiming the status of a non-immigrant takes as long as the examination of an immigrant, as the examining inspector has to satisfy himself that such a person is a bona fide non-immigrant.

Total number of Inspections.—The following figures show the large percentage of non-immigrants examined as compared with the immigrants:—

	Number	Percentage
Immigrants admitted..	18,368	3.34
Immigrants rejected..	1,480	.27
Non-immigrants admitted..	530,539	96.39
Total number of inspections..	550,387	

Cash Bonds.—Under section 33, subsection 13, a total amount of $16,774 was collected at border ports covering the admission of non-immigrants. The taking up of a cash bond has greatly increased the check on non-immigrants entering and leaving the country.

Detention Buildings.—During the year, new detention buildings have been erected by the Great Northern Railway at Emerson, and the Northern Pacific Railway at Emerson Junction. Negotiations are still being carried on with the Canadian Pacific Railway regarding the accommodation provided at Coutts and North Portal.

Air Traffic.—There is only one official air harbour in this division, namely, at Virden, and the Customs officer there is becoming acquainted with the necessary regulations, so far as this department is concerned.

Investigations.—There has been a very large increase in the number of undesirables in the interior who have been reported to us by the police or other officials. Our own staff has carried out 1,835 investigations, and in addition, a large number have been made at my request by the R.C.M. Police and provincial and city police forces.

Prosecutions.—There were 44 prosecutions of persons for violation of the Immigration Act at border ports during the year, as compared with 8 last year. There were 21 in the interior, making a total of 65.

Deportations.—The number of deportations effected through this office amounted to 221, as compared with 125 last year. There are four deport officers on my staff, and owing to the increase in this branch of the work, they have not been sufficient at times to carry out all the necessary trips, consequently I have had to use other members of the staff.

The nationalities of the persons deported were as follows:—

United States	135
English	50
Scotch	2
Irish	1
Welsh	1
Italian	3
French	3
Danish	2
Belgian	1
Finnish	1
Russian	1
Polish	6
Scandinavian	2
Austrian	8
German	5
	221

Farm Labourers from the United States.—The supply of farm labour in Western Canada last spring and fall was sufficient to handle the seeding and harvesting of the crop, and no special effort was made to bring farm labourers from the United States. All those who did come in were recorded in the regular manner.

Immigration Halls.—The following is a list of the Immigration Halls in the Western Division, together with the number of settlers who obtained accommodation therein:—

Winnipeg	2,931
Emerson, Man.	48
North Battleford, Sask.	244
North Portal, Sask.	65
*Prince Albert, Sask.	85
Edmonton, Alta.	1,791
*Athabasca, Alta.	15
*Edson, Alta.	Nil
Grande Prairie, Alta.	439
Grouard, Alta.	150
Peace River, Alta.	375
Spirit River, Alta.	331
	6,474

* Closed during winter months.

Nine of these Halls are situated in the northern parts of the Prairie Provinces where homesteaders are locating, while two of them are situated on the border at

Emerson and North Portal, where settlers coming in with live stock have to wait for their animals to be tested. Those settlers who obtain accommodation either at Winnipeg, the border, or in the interior, greatly appreciate the nature of the free accommodation provided for them by the Government.

Immigration Halls, Winnipeg

No. 1 Hall.—During the year, No. 1 Hall sheltered 3,142 immigrants, who spent an average of four days in the hall. Last year 1,084 received accommodation.

The meals supplied were as follows:—

To 48 destitute immigrants	986
To 155 deports detained enroute	1,145
To 4 persons rejected and returned to Emerson	4
To 1 person held for investigation	12
To matron	896
	3,043

These meals cost $683.92, or an average cost of 22½ cents per meal.

No. 2 Hall.—During the war, this hall was occupied by the military authorities, but has since been turned over to the Public Works Department.

No. 3 Hall.—This building was also occupied by the military during the war, but has since been turned over to the Public Works Department.

Grain Warehouse, Winnipeg.—The following is a list of exhibits prepared in the Grain Warehouse and forwarded to our agencies in the British Isles and United States during the year:—

265 cases containing grain-in-straw, grasses, half sheaves and rope, prepared from the following varieties, namely: millet, wheat, oats, flax, barley, timothy, alfalfa, red top, pea vine, clover, vetches, blue joint, hemp, corn, brome grass and sweet clover.

209 boxes containing threshed grain of the various kinds.

30 boxes containing honey, cheese, and butter.

556 crates containing vegetables. These were expressed to the Canadian Government agents in the United States and were on exhibition at eighty-four state and county fairs held in the best agricultural districts in the United States.

172 school boxes containing grain-in-straw, grasses, and samples of threshed grain; also literature descriptive of Western Canada. These were expressed to schools in the United States upon request of principal of same.

The purchasing of the various grains and other exhibits occupied a period of ten weeks. The warehouse staff had to be increased by the employment of three temporary men to handle the preparation of the exhibits, which show an increase over last year.

I continue to receive many complimentary letters from schools in the United States to which we send boxes of grains and grasses. These seem to be appreciated very much, and the inclusion of literature descriptive of Western Canada helps to advertise the resources of our country. The various clippings of newspaper articles also show that our exhibits at the large agricultural fairs and exhibitions in the United States have received their share of favourable comments from the press.

Labour Bureau, Winnipeg.—There were 1,740 settlers applied at the Winnipeg office for information regarding agricultural settlement and employment. After

being supplied with such information as we have, they were directed to the representatives of the different provinces in which they were interested.

British Immigrant Children.—The Inspector of British Immigrant Children and other officers have inspected these children in the usual way, according to requests received from Ottawa at this office.

REPORT OF G. BOGUE SMART, SUPERVISOR OF JUVENILE IMMIGRATION

"To take these children from homes which were no homes, from surroundings full of peril to bodily health and moral well-being, from a country which offers small prospects and place them in a country which was a veritable Land of Promise crying out for willing labourers, was to confer a benefit on both countries so vast as to be stamped with the mark of its divine origin."—*The Quiver.*

More than fifty years have passed since the necessity for effort on behalf of the thousands of poor and neglected children of London and other parts of the United Kingdom claimed the attention of well-disposed and worthy individuals to attempt by some action the reclamation and salvation of the thousands who should grow up in such conditions and surroundings as only tend to foster and develop many of the worst forms of depravity and a menace to the future of the nation. Not alone because of this danger but a greater and higher motive, viz. the interest and well-being of the children themselves, actuated those who recognized the call for service. In the course of their operations those engaged in the work found that a first requisite to ultimate success was a complete change of environment.

After visiting Canada and studying its advantages and suitability the pioneers in this service were convinced that they could direct their efforts to this country with greater assurance of ultimate success than could be expected for them at home. The proximity of Canada to the motherland was a matter of inducement for several reasons amongst others, (*a*) a saving in expense; (*b*) being the nearest Dominion to England, the natural pain and regret of relatives and friends leaving home then as to-day the common experience of the poor no less than of the rich, would not be so much felt; and (*c*) the further fact of Canada's existing need for just such a type of juvenile as could be supplied by Great Britain.

The first organized party of juveniles to leave Great Britain arrived at Quebec in 1869 and were cordially received by Government officials and citizens of that city, and since that remote period without interruption, except during the war, parties have annually been brought to Canada and settled in the agricultural districts of the older provinces of the Dominion.

For many years the real economic importance of the movement did not appear to impress itself to any extent upon the minds of Canadians generally, as might have been anticipated. But this was largely due to the fact that juvenile migration received very little publicity beyond perhaps casual reference in the official reports of immigration agents of the ports at which the children landed. In 1875, however, the Select Committee on Immigration and Colonization made a special report to the House of Commons that the movement was of a satisfactory character and had resulted with very little exception in permanent advantage to the children who were brought out, and to the country, adding that exceptions to the rule of well-doing were not either in number or character sufficient to impair the result as a whole, and from this time a more general interest was taken in the movement. Its promoters, notwithstanding a certain amount of discouragement, if not hostility, both in Canada and the homeland, "carried on," and only within recent years has its value been fully recognized by all classes of the community in the sense that it has

added thousands of young men and women to our population and helped to some extent to meet the demands for help.

The Departments of Government of Great Britain concerned in the early care and training of these young settlers, and with whose sanction children are permitted to leave the mother country, do not lose sight or interest in them when they go abroad but follow their careers with a deep and almost parental interest until they are capable of managing their own affairs.

The children undergo special training and instruction in such subjects as are essential to properly qualify them for respectable citizenship and useful service abroad. Besides their elementary schooling, instruction in useful trades for the boys—such as carpentry, boot-making and repairing, harnessmaking, tailoring, gardening, and in many schools in the country districts lighter branches of farming. The girls are taught housework, dressmaking, laundry work and cookery. This course of training embraces periods of from one to five years. In the Barnardo and other institutions, migration is held before the children as a certificate of their personal merit and health.

After arrival in Canada children are first placed out on approval with the distinct understanding that if they are unsuited for the work which they were expected to do, they may be returned to the Receiving Home after reasonable notice to such effect has been furnished to the superintendent of the home. A form is sent to each applicant which is filled up and returned to the superintendent, in which the work required of the child is stated, together with such other information as the society may require. A certificate as to the character of the applicant and members of his family is furnished by a responsible person, usually a magistrate or clergyman. This information must be in the possession of the superintendent of the institution before the child is entrusted to their care. A child is often sent out on trial, and if, within a reasonable time, he proves satisfactory, an indenture is entered into in legal form over the signatures of the home superintendent and the employer. The terms of the agreement necessarily vary according to the age and capacity of the child. It provides for an engagement covering a definite period, during the whole or part of which term the child is to be boarded and clothed and made to attend church and Sunday school and also a public school during the school term. Wages for young children should for the first six or even twelve months of their service be considered of secondary consideration.

As indicated in the preceding paragraph the children are under the legal guardianship of the society or agency under whose auspices they were sent to Canada, and the representatives of the agencies are accountable to the Imperial Government and the Government of Canada for their proper care and supervision.

The thoroughness of the training referred to has been shown to be most beneficial to the children. As they come to the Dominion they are grouped according to age: (1) little boys and girls of ages varying from 3½ to 12 years and (2) those from 12 to 18 years, and are placed as follows: (3) the younger ones by adoption, and (4) the older ones as farm apprentices and domestic helps on a scale of wage commensurate with their capabilities. The terms upon which the children are apprenticed usually cover from one to three years, after which yearly terms of hire are negotiated by the home on their behalf. Many of the homes collect in trust for their wards their earnings, and thus retain control of their savings until the boy or girl is of age. This is allowable as the right of the legal guardian of the children emigrating under their auspices. Exception is sometimes made in the case of boys or girls who have given proof of possessing habits of thrift and good judgment.

There are certain conditions in respect to the selection of children whom it is proposed to migrate and the organizations adhere to the following safeguards: (*a*) The character of every boy or girl must be furnished in writing before emigra-

tion is agreed upon, and the report must refer to the period during which the child was under training and observation in the orphanage, home or school. (*b*) Those whose characters are doubtful or others who have been placed out in the motherland and have not made good, are negligible.

The department has maintained as in previous years, a constant supervision and watchfulness in regard to the comfort and personal welfare of every boy and girl who came from Great Britain to Canada without parental escort or protection. The work is not performed spasmodically or superficially but continuously and as effectively as possible until the child reaches his eighteenth year or longer if necessary. It is only by maintaining this personal touch that the value of their emigration to Canada can properly be determined.

During the past year, 1,080 boys and 346 girls, of ages varying from 5 to 18 years, were migrated to Canada and placed in homes and situations of profitable employment throughout the Dominion. Many of the children were the orphans of Imperial soldiers, killed in the late war, and many others were children of poor but respectable parentage. Others were less fortunate in respect to parentage though of this class the vast majority have received such training as to make it impossible to distinguish one class from another.

The interest of Canadians in the children was shown in various ways: (1) by the cordial welcome given them on their arrival; (2) by the continuous and extraordinary requests for their services received from all parts of the Dominion; (3) the profound interest shown in their welfare, treatment and success; (4) the general popularity of the movement as a source of supply of farm and domestic help; and (5) favourable press notices and widespread desire that the work, as conducted under the present auspices and departmental regulations should receive the utmost encouragement and sympathy as the result of its immense national and economic importance.

GENERAL STATISTICAL REPORT

On the 31st March the number of children under inspection by this branch of the department was 1,665, including 1,133 boys and 532 girls, and their distribution was as follows:—

	Boys	Girls	Total
Province of Ontario	827	448	1,275
Province of Quebec	200	44	244
Province of New Brunswick	57	16	73
Province of Nova Scotia	36	19	55
Province of Prince Edward Island	..	3	3
Province of Manitoba	2	..	2
Province of Saskatchewan	3	1	4
Province of Alberta	4	1	5
Province of British Columbia	4	..	4
	1,133	532	1,665

In the provinces of Ontario, Quebec and the Maritime Provinces there are very few agricultural districts where one would fail to find some of these boys at work, either as beginners or qualified farm hands. After serving apprenticeships in the east some migrate to Manitoba, Saskatchewan and Alberta as harvest hands, where many remain and take up homesteads and generally make good. In Western Canada splendid openings are always to be found for old country boys who have had experience on farms in Eastern Canada.

The continued and practically unlimited demand during the year for the employment of these British boys and girls by farmers and others exceeded the total applications of previous years by over eight thousand. In the following statement there will be found the number of applications received for these children migrated during the

fiscal year—thus showing the extent to which this branch of our immigration might be enlarged to meet more adequately the requirement for this class of help which is so general throughout the agricultural sections of the country.

Society or Agency	Children Emigrated	Aplications received for Children
Dr. Barnardo's Homes, Toronto and Peterborough, Ontario, and Winnipeg, Manitoba	581	13,398
The Catholic Emigration Association	229	2,161
Church of England Society, Sherbrooke, P.Q.	120	200 over
Miss Macpherson and Mrs. Birt, Belleville, Ont.	121	1,167
Fairknowe Home (Mr. Quarrier) Brockville	110	1,216
The National Children's Home and Orphanage	90	800
Sir J. T. Middlemore, Halifax, N.S.	91	200
Mr. J. W. C. Fegan, Toronto	49	332
Salvation Army	32	327
The Church Army	2	....
British Women, S.O.B.	1	....
Mrs. Smyley ("The Coombs") Hespeler, Ontario	..	40
	1,426	19,841

Had it been known that the supply was available the number of applicants would no doubt have been largely in excess of the above total, if not actually double.

The representative of one of the organizations in Canada, in speaking of the possibilities of the further development of this branch of immigration, stated that it would not have been a difficult matter to place a hundred boys on the land, if they had unexpectedly walked in upon us, amongst farmers who have been waiting for months in the hope of our being able to supply such help.

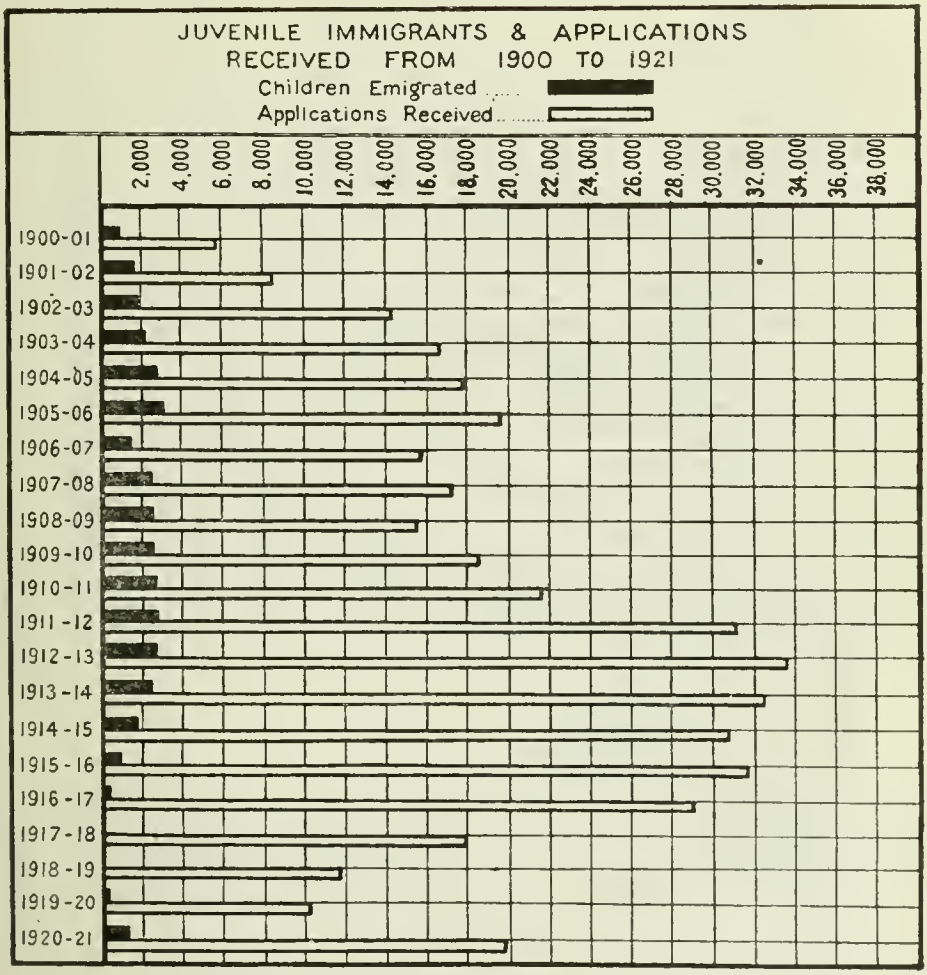
The demand for juvenile farm and domestic help during the past twenty years has not been exclusively confined to Canada; Australia, New Zealand and South Africa and other British Dominions have been active in propaganda in the old country and the representatives of the various Governments have offered generous assistance in the interest of migration of boys and girls to their respective Dominions.

Canada's ability to absorb thousands of trained boys and girls is indicated in the subjoined chart, by the great disparity between supply and demand. It is therefore clear that the demand in this branch of immigration is only limited by the supply and it should be explained that the activities of those encouraging the movement have so far been chiefly confined to Eastern Canada leaving a field of practically unlimited possibilities in the western provinces unprovided for.

From year to year we observe the success of our former juvenile immigrants and more and more realize the unlimited possibilities awaiting persevering and industrious children in this country. A writer has well said, "The feet of our boys and girls are set in a large place. In Canada, if a boy should lose his situation the process of regaining a footing is easy as compared to the conditions prevailing in the Motherland," and adds, "The number of successes amongst our British juvenile immigrants is large and the percentage of failures small."

The records of the department are very interesting and show that these children adapt themselves without difficulty and stand the test of their new life and surroundings wonderfully well, fully 95 per cent having done well in Canada. This is due to (1) a careful selection of children for migration, (2) the class of homes into which the children are received, and (3) their effective supervision or after care. The late Dr. Barnardo once stated, in course of conversation, that the emigration of children without continuous supervision would, in his opinion, court disaster.

In passing on to the main features of the work of this Branch during the past fiscal year the following table will be found to supply a complete record of the children who were subject to the direct inspection of this department, set forth in such a way as to indicate the quality of homes and situations provided for them, their health, earnings progress and the conditions under which they were employed.


JUVENILE IMMIGRANTS & APPLICATIONS
RECEIVED FROM 1900 TO 1921
Children Emigrated
Applications Received
2,000
4,000
6,000
8,000
10,000
12,000
14,000
16,000
18,000
20,000
22,000
24,000
26,000
28,000
30,000
32,000
34,000
36,000
38,000
1900-01
1901-02
1902-03
1903-04
1904-05
1905-06
1906-07
1907-08
1908-09
1909-10
1910-11
1911-12
1912-13
1913-14
1914-15
1915-16
1916-17
1917-18
1918-19
1919-20
1920-21

RESULTS OF DISTRIBUTION DURING 1920

Homes and situations—		
In good foster homes and situations	1,241	
In fair foster homes and situations	14	
In unsatisfactory homes and situations	1	1,256
Health—		
Good	1,215	
Fair	40	
Unsatisfactory	1	1,256
Progress—		
Good	1,171	
Fair	80	
Unsatisfactory	5	1,256
Conduct—		
Good	1,177	
Fair	76	
Unsatisfactory	3	1,256
Children of school age receiving board, clothing and schooling		350
" receiving board and clothes with a small wage		75
" 14 years of age and earning wages		735
" over 17 and on their own		13
" adopted		28
" boarders		24
" in the homes		12
" in hospital		6
" returned to home for further placing		34
" absent when inspector called		18
" whereabouts unknown		35
" restored to relatives		15
" deported		5
" married during year		16
" enlisted		1
" in Naval Reserve		2
" died		4
" gone to United States		13
" absconded		1
" returned to England		14
" gone to Western Canada		1
" in jail		3

Over 16 children have money in the bank.
One during haying earns $4 a day.
One apprenticed and earning 42 cents an hour.
One earns $2 a day.
One earns share in profits.
One apprenticed at $432 a year.
One clerk in dry goods store.
One clerk earns $20 a month.
One will receive $100 when of age.
One clerk in store, $384 a year.
One works in mill, $480 a year.

Total ages	16,313	years
Average age	13	"
Average wage	$93.22	
Total wage	$84,455.00	
Total inspections in 1920-21	1,645	

Completed cases in 1920-21 (i.e. boys and girls over 18 years of age.)

Homes—	
Good	156
Fair	..
Unsatisfactory	..
Health—	
Good	155
Fair	1
Unsatisfactory	..
Progress—	
Good	153
Fair	3
Unsatisfactory	..
Conduct—	
Good	153
Fair	3
Unsatisfactory	..
Children still attending school and receiving board and clothes	6
Children earning wages and receiving board and clothes	21

One earns 30 cents an hour.
Two on their own farms.

RESULTS OF DISTRIBUTION DURING 1920.—*Concluded*

Six "on their own."
One dressmaker at $1.25 per day.
One owns share in farm.
One earns $5 a day.
One works in cheese factory.

Total ages	2,769 years
Average age	18 "
Average wage	$183.14
Total wage	$28,570.00

The children were generally found contented and well settled and a very small number, comparatively, changed situations or had to be recalled on account of faulty traits of character on their own part during the year.

About twenty-five per cent of the children migrated were girls, and they were placed in domestic service in both town and country, and they have measured up equally well with the boys and succeeded in making a place for themselves in a surprisingly short time. As domestic helpers they have been an all round success, and as nurse maids they are almost sure to succeed. Our lady inspector, of course, gives the younger girls special attention and has found that those of the school attendance age were being sent to school regularly. The inspector visits the younger girls whenever possible at school and obtains from the teacher a report as to their ability to learn and general progress. These children are perhaps a little handicapped at first, having changed from one school to another, but they soon overcome any disadvantage in this regard and adjust themselves to their school work. While all children vary in their ability to learn, the reports for the past year do not show that any of our Old Country girls were not making reasonable progress both at home and at school.

In the case of young children, foster parents and others with whom they are placed are expected to show them such consideration as is due to childhood. There is everywhere manifest in the progress of these young people a healthy appreciation of personal responsibility on the part of those to whom the interests of these little girls are entrusted. During the past year no cases of unfair or unkind treatment of our juvenile immigrants—either boys or girls—were reported by our inspectors.

DEPARTMENTAL INSPECTION

In my previous reports it has been stated that the friends and well-wishers of the children need not entertain any apprehension concerning the treatment of the children in Canada, as any act of injustice would be quickly discovered and resented by those living in the neighbourhood. Our young immigrants are not only kindly treated, but the great majority are treated as members of their employer's family and are permitted to freely participate in the comforts and pleasures of the domestic circle.

Our inspectors have been engaged constantly the year round travelling in the townships, paying personal and unexpected visits amongst the children. Each child is privately interviewed and a careful survey made of his home surroundings, personal appearance, and general progress. When complaints are received the child and his employer are brought together with a view of healing any trivial differences that have been found to exist between them. In the event of a situation being found unsatisfactory to the progress and general well-being of the child, full particulars are reported to the superintendent of the home, with a recommendation for such action as circumstances may warrant. The various organizations have shown a desire for reasonable co-operation with the department in carrying out the regulations and protecting the interests of the children.

It is estimated that fully 75 per cent of these former juvenile immigrants adhere to farming or various branches of agriculture as their permanent occupation.

Many whose tastes or inclinations divert into other avenues of industry than farming have become successful merchants, ministers of the gospel, members of the professions, etc. In this connection the following is a quotation from a newspaper item of recent date in its reference to a boy who had been emigrated under the auspices of one of the societies:—

> "Reverend ——, M.A., B.D., pastor of First Church, is doing excellent work in his pastorate and his ministry is both popular and fruitful. Very large congregations are now gathering to hear him. Financially, too, he has done remarkably well. An esteemed ministerial brother says some kindly things about him in a letter just to hand: 'I consider —— one of the strongest men in our convention. He is growing every year and getting a very strong hold of our work and our hearts. I wish we had a score of men with his ability and choice Christian spirit for leadership. He assisted me in our special meetings, and for directness of appeal to accept Christ and the gospel of Christ I have yet to hear anything more convincing or true to the heart of Christianity. If Ontario has any more ministers of a like spiritual and intellectual calibre, who are movable, the East will welcome them heartily.'"

There are many noticeable examples of the success of these old country boys worthy of mention. The manager of Dr. Barnardo's Homes recently stated:—

> "It is very encouraging when our correspondence from the boys of our great family reads as did a letter from George —— a few weeks since. He says: 'I have lots of work to do. I have a very large cheese factory which runs nine months, and the rest of the year I have to get up my wood.' George contemplates bringing to Canada some of his relatives from the old country."

Another of their boys had just recently completed a course at an agricultural college. This young fellow contemplates continuing his studies in agriculture during the winter and in the spring has arranged to embark on farming on his own account.

> "This young man graduated at the University of Toronto, and on his official examination passed with seventy marks in each subject, standing fourth in his graduating class. He is a strong, well-developed young man, of good apppearance, and is working up what promises to be a most successful practice in his district as a veterinary surgeon."

A few months ago a farmer called at one of the receiving homes during my visit and said:—

> "Fifty years ago I came out with the second party in August, 1870, and I own the farm not two miles from where I was first placed."

Another sending a gift to the home wrote:—

> "I am still on the same farm you placed me on thirty-eight years ago; the only difference is that my master has retired and I have bought the farm.
>
> "We hear with much regret of the death of one of our old boys, named ——, in ——, Canada. He fell from a barn platform, sustaining concussion of the brain, from which he died without regaining consciousness. Dr. Barnardo sent him to Canada twenty-five years ago, and since then he has worked as a farm labourer. There was an interruption of five years in war time, during which he returned to England and worked in shipyards. He was unmarried and forty-four years of age. At his death he left an estate of fifteen thousand dollars to a local hospital, and one thousand dollars to our homes. The rest goes to a brother in England. How many farm labourers could save £3,000 ($15,000) in Great Britain in twenty-five years?"

Realizing this country's great need for juvenile workers such as Great Britain can readily supply, it has been my endeavour to encourage a larger emigration from the motherland than ever before and to enlist a deeper interest in the work and the children themselves, thus ensuring supporters of the movement and the friends of the children that when the children settle in Canada they will be considerately treated and have all the rights and privileges which Canadian born children enjoy.

Our former juvenile immigrants are perhaps amongst the most enthusiastic emigration agents Canada has. Every year some of these young fellows have been the means of bringing relatives and friends to the Dominion and providing employment for them here. The result has been that some mothers who were struggling along in poverty at home have been enabled to rejoin their children, and are enjoying the comfort of a good home, while other members of the family are in profitable employment.

It will be observed that these young people have during the past year rendered satisfactory service to their employers. Sometime ago a Canadian journal, in referring to the movement, maintained that "the conditions governing incoming immigrant children without parents are strict. The majority of them are excellent material; no precaution could prevent an occasional mistake among thousands of experiments: and no care in this country could prevent a lapse here and there after arrival, among thousands of tests. But statistics collected and registered by the Dominion Government show that a smaller proportion of these children are failures in Canada, or become law breakers than of our own native Canadian population." It is recognized by those responsible that the immigration laws and regulations must be conformed with, and that when any of these children are shown to be of the classes usually prohibited, they are deported. In the past twelve months the number of these young people who have been the subject of the deportation regulations were only five out of a total of 1,426, being about one-third of one per cent of the total immigration or only three in a thousand.

In closing my report for the year I feel it my duty to express my deep appreciation of the uniform courtesy shown by the representatives of the various British societies and others in their willingness to afford me every facility for investigating the records of their respective organizations. These examinations, which as a part of my duty, enable me to inspect every detail of the management of the homes in Canada, and to question those in charge on matters of public interest. Having access to the records I am enabled to inspect the family history of the children and in general maintain a complete and intelligent oversight of all matters connected with the movement.

My reports from year to year, including the present one, make it impossible to mistake my sincere sympathy with the movement because of the evidence continually brought to my attention of its practical advantage to this country in providing a means of meeting even a small proportion of the demand for farm and domestic help, and it would be impossible to form any other opinion than that my entire sympathy is on the side of the continuance of an even greater encouragement to the movement. Even besides this it is a form of immigration by which children are brought to Canada and looked after at ages which enable them to grow up under the influence of Canadian conditions and become permament industrious and worthy citizens of the Dominion.

REPORT OF THE SUPERVISOR OF THE WOMEN'S DIVISION, MRS. J. S. ROBSON

Towards the end of the repatriation period, in May, 1919, a small conference of representatives of interested organizations was held in the Plaza building, Ottawa, to discuss matters relating to the immigration of women. At this meeting the following principles were presented to and endorsed by the Minister of Immigration and Colonization:—

(1) That the principle that immigration of women to Canada be in charge of women be adopted, this to be worked out as follows:—
  (*a*) Advisory capacity.
  (*b*) Employment of women workers on the staff of the Department of Immigration (1) at Ottawa, (2) in England, (3) on steamships, (4) at ports of entry.

It was also decided that a survey of existing machinery for the reception and housing of immigrant women be made. At this meeting were present the members of the British Oversea Settlement Mission sent to Canada for the purpose of investigating opportunities for ex-service women.

Following this meeting the survey suggested was made. In August, 1919, a temporary woman officer (later to be known as the Supervisor of the Women's Division) was attached to the Department of Immigration and Colonization for the purpose of further organizing and developing the women's work.

CANADIAN COUNCIL OF IMMIGRATION OF WOMEN

In September, 1919, after communicating with all interested organizations, the first meeting of the Canadian Council of Immigration of Women wes held. The aims of this council, as stated in its first constitution, were as follows:—

(*a*) Supervision of hostels that are or will be established for the accommodation of household workers coming to Canada.
(*b*) The establishment, control and supervision of new hostels as need may arise for these hostels.
(*c*) Control of such federal financial support in the form of subsidies as may be granted from time to time for the maintenance of hostels.
(*d*) Study, followed by recommendations to the Immigration Department, of conditions covering the overseas selection and care at ports of embarkation and on steamships and trains, of women immigrants coming to Canada.

At this meeting the Superintendent of Emigration for Canada in England, Mr. J. Obed Smith, was present; also Miss Gladys Pott, of the Oversea Settlement Mission. The situation regarding household help in different sections of the country was carefully canvassed. The survey of existing machinery for housing and reception was presented. It was decided that the membership of the Canadian Council of Immigration of Women should consist of representatives of national organizations interested in immigration, and provincial representatives to be appointed by the Provincial Governments; also, that the council should co-operate with the British women's organization then in process of formation. It was agreed that the placing of such women as came to the hostels should be done in co-operation with the Women's Division of the Employment Service of Canada. The training of house-workers and the standardization of housework also occupied the attention of this

meeting. Recommendations as to certain restrictions on immigration, the abolition of the bonus system, and the licensing of booking agents were brought to the attention of the minister. Arrangements were made for follow-up work through both city and rural women's organizations and the various churches.

For the purpose of establishing hostels and initiating much of this work, the council commenced operations with a salaried executive officer and secured offices at 102 Bank street, Ottawa. Further meetings were held in January, 1920, and October, 1920. It continued operations in these quarters until January, 1921, organizing hostels, preparing a report on standardization of housework, and doing valuable follow-up work. At the annual meeting of the council in October, 1920, it was felt that with the establishment of the hostels and the decentralization of much of the work through provincial operation, the time had come for a restatement of the council's aims and purposes. Certain findings then made were submitted to the minister, and at a special meeting of the council held in April, 1921, it was decided to continue in operation as an advisory body, advising the department as to matters relating to hostels and follow-up work, and bringing in the outside point of view in all matters relating to the immigration of women, but the administrative and secretarial work of the council to be merged with that of the Women's Division.

The membership of the council at present is as follows:—

Lady Falconer, Toronto, representing Young Women's Christian Association.
Mrs. Vincent Massey, Toronto, representing National Council of Women of Canada.
Mrs. John McNaughton, Harris, Sask., representing Women's Section, Canadian Council of Agriculture.
Mrs. Charles Robson, Winnipeg, Man., representing Federated Women's Institutes of Canada.
Mrs. Gordon Wright London, Ont., representing Women's Christian Temperance Union.
Mrs. W. D. Spence, Calgary, Alta., representing Imperial Order of Daughters of the Empire.
Mrs. Colin Russel, Montreal, P.Q., representing National Committee on Mental Hygiene.
Mr. Tom Moore, Ottawa, Ont., representing Trades and Labour Congress of Canada.
Mr. C. G. MacNeil, Ottawa, Ont., representing Great War Veterans' Association of Canada.
Dr. J. G. Shearer, Toronto, Ont., representing Social Service Council of Canada.
Lady Pope, Ottawa, Ont., representing Catholic Women's League of Canada.
Mrs. J. N. West, Toronto, Ont., representing Women's Missionary Society of Presbyterian Church in Canada.
Mrs. H. A. Lavell, Kingston, Ont., representing Women's Missionary Society of Methodist Church in Canada.
Miss Bogert, representing Women's Auxiliary to Missionary Society of Church of England in Canada.
Hon. Mrs. Ralph Smith, Vancouver, B.C., representing province of British Columbia.
Mrs. Wm. Robertson, Calgary, Alta., representing province of Alberta.
Mrs. I. D. Jones, Regina, Sask., representing province of Saskatchewan.
Dr. M. Ellen Douglass, Winnipeg, Man., representing province of Manitoba.
Mrs. H. D. Warren, Toronto, Ont., representing province of Ontario.
Mde. F. L. Beique, Montreal, P.Q., representing province of Quebec.
Mrs. M. E. Lawrence, St. John, N.B., representing province of New Brunswick.
Mrs. Wm. Dennis, Halifax, N.S., representing province of Nova Scotia.

HOSTELS

The hostels number eight, and are situated as follows:—

Halifax, using the house of the Local Council of Women.

St. John, at first a separate hostel; now co-operating with Transient Home of the Travellers' Aid.

Montreal took over Dorchester House; now operating as Canadian Women's Hostel.

Toronto—72 Carlton street.

Winnipeg took over the Girls' Home of Welcome.

Regina opened a new hostel at 1839 Lorne street.

Calgary arranged with the Girls' Home.

Vancouver arranged with the Y.W.C.A.

Arrangements were made with the Provincial Governments to assist in the financing of the hostels to the extent of supplying heat, light and rent. So far, the province of Quebec has made no contribution to the Montreal hostel. The council was led to make such extensive preparations by the statement in the report of the British Government Oversea Settlement Mission that 10,000 demobilized war-service women were anxious to come to Canada to enter housework. These hostels, in addition to being a reception home for girls upon their arrival in Canada, serve also as a clubhouse and home when they are ill or on holidays. They also serve a very useful purpose in caring for many other immigrants, particularly families passing through who wish a clean accommodation at a moderate cost.

Up to October 31, 1920, these hostels have accommodated 3,915 transient immigrant women.

PINK CARDS OR EMIGRATION PERMITS

In order to ensure proper selection of immigrant women, the Women's Division urged upon the department the necessity of a system of emigration permits, to be granted to all unaccompanied women desirous of coming to Canada, upon the assurance of good health and satisfactory purpose in coming.

Under this system, from December 1, 1919, to March 31, 1921, a total of 7,724 women have come to Canada, of whom 4,169 were coming either to be married or to join relatives, 2,459 were coming to assured positions in factory work or housework, and 1,096 were coming to seek housework. In this division there is a card record of over a thousand of these girls, of whom fully 90 per cent are reported as satisfactory.

FACTORY HELP

By a special arrangement between the Department of Labour and the Department of Immigration, parties of girls for factory work have been brought out. These have been given the same attention as those coming for housework. This division has kept a vigilant lookout for all girls coming to Canada for factory work without such permission, and those coming to take up work which might complicate the employment situation. In this restrictive policy we have been specially commended by the Trades and Labour Congress of Canada.

ADVANCED PASSAGES AND PROVINCIAL OPERATIONS

In February, 1920, the department sent its woman officer to Great Britain to arrange for closer co-operation with the British Committee and to make a study of conditions as they affect the immigration of houseworkers. Upon this officer's return, she reported that the need for houseworkers in Canada could only be supplied by a system of advanced passages. She was authorized to take this matter up with the three Prairie Provinces, which have no agents-general in London, and the department took it up by correspondence with the other provinces.

The province of Saskatchewan immediately responded and an arrangement was made whereby a special woman officer was appointed for the purpose of selection in Great Britain, one-half of her salary being paid by the Provincial Government and one-half by the Federal Government. She selects the women and advances their passage under an arrangement with the Provincial Government, puts them in charge of the ship's matron on the boat, and they are conducted on the train in Canada to their destination by a Federal woman officer; 165 women have been brought to Saskatchewan in this manner to date, and the scheme is working out very satisfactorily.

The same scheme was to be adopted in Manitoba, but the death of the Hon. Valentine Winkler prevented its being immediately carried out. Recently the matter

was again taken up with the Hon. George Malcolm, now Minister of Agriculture, and the Manitoba Government has appointed a woman to go overseas and undertake the work.

The Government of New Brunswick is also sending a woman to Great Britain shortly to interest women in coming to that province.

IMPERIAL ASSISTED PASSAGES

Early in February, 1921, letters were sent to all the members of the Canadian Council of Immigration of Women, asking for the opinion of their organizations and provinces regarding the offer of the British Government to pay £25 towards the passage money of any inexperienced woman of the servant class whom we might wish to take. This matter was also brought up at the April meeting of the council, and the following resolution unanimously adopted:—

> "Resolved, that in view of the present industrial conditions in Canada, and the restricted policy which we have adopted, this council do express the opinion that at the present time we do not favour the immigration of these inexperienced British women, until such time as the provinces will guarantee free training for these girls."

Since then, schemes of training have been discussed with the Toronto Hostel, the Manitoba Government and the Women's Institutes of British Columbia.

SOCIETY FOR THE OVERSEA SETTLEMENT OF BRITISH WOMEN

The British Government formed an amalgamation of all the women's organizations in Great Britain interested in immigration, making them an auxiliary to the Oversea Settlement Committee, under the name of the Society for the Oversea Settlement of British Women. This division has co-operated very closely with this organization, in many cases securing information about situations and prospective employers for British women who were coming out, and arranging for introductions to members of Canadian women's organizations.

CONDUCTRESSES

Until August, 1920, women not accompanied by their families came to Canada in parties in charge of Canadian Government women officers. After a careful trying out of this scheme, it was recommended to the minister that the steamship companies be asked to undertake this work for several reasons. It was impossible for the Canadian Government to supply permanent officers for all the vessels travelling between Canada and Great Britain. The appointment of temporary officers was generally unsatisfactory. The steamship companies then undertook to put on officers to be known as "ship's conductresses." Up to the present time, the Canadian Pacific Ocean Services has done this work in a satisfactory manner, and on half a dozen of their boats have ship's conductresses—women of high character and ability. The scheme is working out most satisfactorily. The Cunard and White Star Lines are using chief stewardesses and former matrons. It is a little early yet to pass judgment on any one of the lines in regard to this scheme, but the situation is improving considerably. These ship's officers take over the lists from our women officers at the ports and report to the ship's officers on this side, and they exercise careful supervision over the girls during the voyage.

WOMEN OFFICERS

In September, 1920, Orders in Council were passed asking for the appointment of three Principal Woman Officers and one Assistant in Great Britain, a Principal Woman Officer for duty at Quebec and St. John, and two conductresses to travel on the trains in Canada conducting parties. These positions were advertised by the

Civil Service Commission and, after an examination, were filled. The Principal Woman Officer at the port of Quebec, in addition to her other duties, is a member of all Boards of Inquiry dealing with cases of detentions of women.

NURSERIES

While the attention of this division was primarily intended to be focused on the immigration of unaccompanied women, a few visits to the ports and trips in the colonist cars of the boat trains brought home the fact that there was a very important piece of work to be done at the ports in caring for and assisting the woman travelling with small children. Accordingly, when the new rest-room was opened at St. John, a section of it was secured for a nursery. This was equipped with cribs for babies, beds for their tired mothers, kindergarten tables and chairs for the tots, baths and laundry facilities, first-aid equipment and a supply of feeding bottles, and English and Canadian foods and baby requisites. It was opened in charge of the New Brunswick Provincial Red Cross, who placed a trained nurse in charge. In addition, three V.A.D.'s are on duty for each boat. As soon as the mothers pass through the lines the V.A.D.'s ask them to give up the babies. They immediately take them to the nursery while the mother is getting her ticket, changing her money and securing her luggage. The baby, if necessary, can be given a bath and is cared for until the mother's return. All the little children are given a cup of milk and a biscuit free. In the four months that it has been operating, over 300 infants in arms have been taken care of, and from the sturdy Scotch bairn to the Italian bambino in swaddling clothes they have all received the best of attention. Over 250 remedies for colds and minor ailments among children and elderly people were given. In addition, postage stamps, postcards and writing materials can be secured. Many of the people using the room, particularly the Europeans, are anxious to make a slight contribution. Up to date, $89.28 has been received, $45.44 has been paid out, leaving a balance of $43.84. Particular emphasis is laid on the fact that only in cases where the mother is well able to pay is any charge made for babies' food and supplies. In all other cases they are given free.

A particularly sharp look-out is kept for the families of returning soldiers and many of these have been supplied with food for the journey. Old people are helped to find their luggage and their place in the train. Girls and women with no knowledge of English are taken care of and sent to their destination.

As it was felt that this was the beginning of perhaps a more important welfare work for children, a follow-up card was issued advising the mothers where to take their children for proper medical attention, and in some cases special word has been sent to the Victoria Order of Nurses or to the Red Cross to follow up certain families. Word has been received back from as far west as New Westminster, appreciating the opportunity it has given our own Canadian people of getting in touch with the newcomer.

The Red Cross was asked to undertake this work on account of its international scope. People arriving in Canada from Central Europe with no knowledge of our language or conditions in this country come over and touch the Red Cross on the nurse's arm, assured at once of ready sympathy and help.

A similar nursery has been opened at Halifax, also under the Red Cross. On account of the small number of boats coming to Halifax a full time nurse is not required, V.A.D.'s under a nursing sister doing the work for the Red Cross. This work at Halifax quite equals the work at St. John. A third nursery is now in operation at Quebec, and the same co-operation is provided by the Red Cross, to the extent of supplying two trained nurses and three other paid helpers.

This work is not only undertaken as a piece of welfare work, but as a piece of Canadianization effort, the desire of those responsible for it being that the newcomer on his arrival in this country gets the proper Canadian contact.

PUBLICITY

A pamphlet on "Women's Work in Canada," was prepared by this division. Newspaper articles have been prepared for both Canada and Great Britain. The Old Country office has been kept informed of employment conditions in Canada. Addresses have been given to the Women's Canadian Clubs of Winnipeg, Fort William, Ottawa and Smith's Falls; to the annual meeting of the National Council of Women at St. John, N.B.; and their executive at Peterborough, Ont.; to the Local Council of Women in Hamilton, Ont.; to the Ontario Women's Institutes in Toronto and the Manitoba Women's Institutes in Winnipeg; and for the future, the annual meeting of the Daughters of the Empire in Toronto in May, and the Alberta Women's Institutes in Edmonton in June. In addition, all interested organizations in Great Britain, Canada and the United States have been kept supplied with whatever information was available.

REPORT OF COMMISSIONER OF IMMIGRATION, EASTERN DIVISION, W. R. LITTLE

BORDER PORTS

During the fiscal year which ended on the 31st of March, 1921, there arrived at ports of entry along the international boundary 42,875 immigrants, of whom 25,754 were admitted and 17,121 were rejected.

STATEMENT OF ADMISSIONS, REJECTIONS, APPEALS, INVESTIGATIONS AND PROSECUTIONS AT THE VARIOUS BORDER PORTS FOR THE YEAR ENDING ON THE 31ST OF MARCH, 1921.

BORDER PORTS

Ports	Admissions	Rejections	Appeals: Sustained	Appeals: Dismissed	Appeals: Entry by permit	Investigations	Prosecutions	Totals	Cash Deposits: Refunded	Cash Deposits: Pending
								$	$	$
Amherstburg	1									
Andover	52									
Aroostook Jct	55	5								
Armstrong	2	1								
Beebe Jct	1,968	426	1		1	30		2,200	2,150	50
Bridgeburg	2,340	1,103	15	23	22	31	8	3,015	2,775	240
Brockville	170	34				13				
Clair	32	2								
Coaticook	459	121				8		500		500
Cobourg	28	11				4				
Comin's Mills	30	14								
Cornwall	213	240		3		13		300	300	
Courtwright	23									
Crystal Beach	1	113								
Debec	125	14								
Edmundston	38	7								
Erieau	1									
Erie Beach		42								
Fort Erie	175	67		12						
Frelighsburg	28									
Georgeville		1								

STATEMENT OF ADMISSIONS, REJECTIONS, APPEALS, ETC.—*Concluded.*

BORDER PORTS—*Concluded*

Ports	Admissions	Rejections	Appeals: Sustained	Appeals: Dismissed	Appeals: Entry by permit	Appeals: Investigations	Appeals: Prosecutions	Totals	Cash Deposits: Refunded	Cash Deposits: Pending
								$	$	$
Grand Falls	7									
Halifax (from U.S.)	25									
Hemmingford	17	5								
Highwater	2,420	253	2	3						
Iroquois	1	1								
Kingston	100	12		1		20				
Lacolle Jct	604	304	1	7	2	2		2,455	2,205	250
Lacolle Highway	39	91								
L'Etete	3	4								
McAdam Jct	1,217	87		3	6			525	525	
Magog		2								
Malone	258	174	1	4	11	14				
Megantic	124	15								
Milltown	93	46								
Morrisburg	8	1								
Niagara Falls	2,272	5,123	5	18	7	100	3	800	500	300
Niagara-on-the-Lake		6								
Point Edward	9	10								
Port Lambton	8									
Port Stanley	29	9								
Prescott	324	54						710	710	
Richmond Rd	14	3								
Rockport	2									
Rouse's Point	427	533	2	6				1,500	1,400	100
St. Agnes	118	123					2			
St. Albans	959	414		6	2		1	1,050	1,050	
St. Andrews	53	3								
St. John, N.B. (from U.S)	30									
St. Johns, P.Q		6								
St. Leonards	42	3						20		20
St. Regis	5									
St. Stephen	150	169		3		14				
Sarnia	1,464	345	1	1		15				
S. Ste. Marie	1,045	301		2	2	40	4	350	350	
Sombra	12									
Stanhope	24	7								
Toronto	35	23	6	36	47	3,919		19,669 73	13,595 73	6,074 00
Upper Mills	5									
Walkerville	747	1,351								
Wallaceburg	14									
Windsor	7,118	5,441	10	75	5	419		5,900	4,150	1,750
Wolfe Island	3	1								
Yarmouth	188									
Totals	25,754	17,121	44	203	105	4,642	18	38,994 73	29,710 73	9,284 00

The above figures do not include the various classes designated as "non-immigrants"—e.g., tourists and travellers merely passing through Canada to another country, Canadian citizens and persons who have Canadian domicile, etc.

It is impossible to state the numbers of non-immigrants who cross and recross the international boundary; e.g., it is estimated that about 10,000,000 passengers entered Canada at Windsor. There is an accurate record of the number of passengers who enter Canada by the Upper steel arch bridge and the Lower bridge at Niagara Falls. This record shows that 3,307,324 entered Canada by the Upper steel arch bridge and 695,618 by the Lower bridge. These figures convey some idea of

the inspectional work performed at ports of entry along the international boundary. It will be noted that 10,564 persons were rejected at the ports of Niagara Falls and Windsor. These figures include a considerable number of mechanics, skilled and unskilled labourers who have attempted to enter Canada at these ports for the purpose of seeking work on the Chippawa power canal, which is now under construction. Inspectors at these ports have been particularly vigilant in their administration of the law, inasmuch as large numbers of unemployed have attempted to enter Canada by misrepresentation and by schemes devised to elude inspection.

There has been a considerable increase in the volume of passenger traffic at the ports of Windsor, Bridgeburg, Niagara Falls, Rouse's Point, St. Albans, and McAdam Junction. There has also been a marked increase in automobile traffic, especially at the port of Lacolle, which is situated on the main highway between New York and Montreal, as well as at Rock Island, Armstrong, and Stanhope. Passenger traffic at the summer resorts of Crystal Beach and Erie Beach was also very heavy. During the greater part of the season, vessels left Buffalo every hour to Crystal Beach. These vessels have a capacity of from 2,500 to 3,000 people. A new service was also inaugurated between Cleveland, Ohio, and Port Stanley.

Members of the Royal Canadian Mounted Police are stationed at various border ports and are co-operating with immigration inspectors, especially in patrol work. In the province of Quebec, inspection is made at certain points along the main highways, but there are numerous crossroads over which automobile traffic can be diverted from the main roads between the boundary and the point of inspection.

OCEAN PORTS

The following passengers arrived at ocean ports: Quebec, 124,030; St. John, 41,040; Halifax, 18,436; Sydney and North Sydney, 13,138; and at United States ports destined to Canada: New York, 10,835; Boston, 743; Philadelphia, 50; and Portland, 20; or a total of 208,292. Of this number, there were 98,060 of the immigrant class, of whom 873 were rejected. The remainder were non-immigrants, i.e., tourists and passengers passing through Canada in transit to some other country.

STATEMENT OF ADMISSIONS, REJECTIONS, APPEALS, ETC., AT OCEAN PORTS

Port	Admissions	Rejections	Appeals			Cases Referred to Bd. of Inquiry or Off. in Charge	Investigations	Trans-Atlantic Pass. Vessels Examined	Crew Manifests Submitted
			Sustained	Dismissed	Entry by permit or otherwise				
Halifax	10,282	118	.....	185	49	234	9	51	569
St. John	16,676	239	52	134	339	794	49	53	465
Quebec	65,969	345	.....	163	159	521	40	120	56
New York	3,021	169	65	46	36	..	79		.....
Boston	311	.	6	6	....	356	356	. .	
Sydney and North Sydney	901	2	.....	...	...	.....	322	.. ..	671
Philadelphia	25	.....	.....	.....	.....	.....	.....	.....	.....
Portland	2	.....	.....		.....	.....	.....	.....	.....
Totals	97,187	873	123	534	583	1,905	855	224	1,761

During the latter part of last summer, the non-continuous journey Order in Council (P.C. 23) was more strictly enforced than formerly at ocean ports. Large numbers of immigrants, especially from Central Europe, were detained and subse

quently rejected at the port of Quebec. Most of these immigrants appealed against the decision of the Board of Inquiry, but numerous appeals were dismissed. After the appeals had been dismissed many of these immigrants applied for admission to the United States.

The accommodation for detentions at Quebec was entirely inadequate and from time to time many of these immigrants were transferred to Montreal. The Immigration building at Montreal also became crowded, and it was necessary to use for detention purposes Belmont Park building, which had been used as a hospital for soldiers. As a result of the delay on account of the hearing of appeals 212 Canadian-bound passengers and 92 United States-bound passengers were released on cash deposits as shown by the following statements:—

MONIES DEPOSITED IN LIEU OF BONDS

Port	No. of Deports	Total Amount	Amount Forfeited	Amount Refunded	Deducted for Expenses	Amount Pending
		$	$	$	$	$
Halifax	222	700 00	500 00	200 00	.....	.....
St. John	10	790 00	.....	190 00	.....	600 00
Quebec	14	4,600 00	.....	3,706 45	293 55	600 00
Montreal	166	20,720 00	4,300 00	8,370 00	.....	8,050 00
Totals	212	26,810 00	4,800 00	12,466 45	293 55	9,250 00

MONIES DEPOSITED IN LIEU OF BONDS
ON PERSONS RELEASED PENDING ADMISSION TO UNITED STATES

Port	No. of Deports	Total Amount	Amount Forfeited	Amount Refunded	Pending
		$	$	$	$
Halifax	18	9,000 00	7,000 00	2,000 00	.....
St. John	5	2,500 00	1,000 00	1,500 00	.....
Quebec	2	1,000 00	1,000 00	.....	.....
Montreal	67	33,500 00	23,000 00	10,000 00	500 00
Totals	92	46,000 00	32,000 00	13,500 00	500 00

During the winter, the influx of immigrants from Central Europe was greatly reduced as a result of the Order in Council of the 29th of November, 1920 (P.C. 2930), which increased the money qualification in the case of immigrants of the mechanic, artisan, or labourer classes, skilled or unskilled.

In addition, the number of immigrants from Central Europe was further reduced by the preliminary inspection at Antwerp and Havre, where an officer of the department warned the transportation companies against bringing to Canada certain immigrants who were unable to comply with the provisions of the Immigration Act. The officer who conducted the preliminary inspection at Antwerp and Havre forwarded lists to the agent at the port of entry showing the names of immigrants whose embarkation had been refused by the transportation companies.

ADMINISTRATIVE FINES

Monies were collected from transportation companies to cover 107 administrative fines, the total amount being $13,850. Of this amount the fines assessed amount to $6,375, while $2,350 have been refunded and cases involving the sum of $5,125 are still pending.

STATEMENT OF ADMINISTRATIVE FINES

Port	Cause	No.	Amount Collected	Assessed	Refunded	Pending
			$	$	$	$
Halifax	Mentally defective	4	275 00	200 00	25 00	50 00
	Physically defective	5	125 00	25 00	75 00	25 00
	Contagious or loathsome disease	1	200 00	.....	200 00	.....
St. John	Mentally defective	13	2,600 00	800 00	600 00	1,200 00
	Physically defective	4	100 00	.....	75 00	25 00
	Contagious or loathsome disease	14	2,600 00	600 00	400 00	1,600 00
Quebec	Mentally defective	9	1,450 00	800 00	50 00	600 00
	Physically defective	27	675 00	150 00	300 00	225 00
	Contagious or loathsome disease	27	5,400 00	3,600 00	600 00	1,200 00
Montreal	Mentally defective	.....	.....	.....	.....	.....
	Physically defective	1	25,00	.....	25,00	.....
	Contagious or loathsome disease	2	400 00	200 00	.....	200 00
	Totals	107	13,850 00	6,375 00	2,350 00	5,125 00

HABEAS CORPUS

Habeas corpus proceedings were instituted in two cases at Halifax and one case at St. John. In two cases the immigrants were released and in one case the immigrant was deported. In one case the court decided that the order for deportation was defective inasmuch as the order did not state in full the reasons for rejection and in the other case it was held that no jurisdiction was shown on the face of the order for deportation, the order being simply signed, "Officer in charge," and nothing on the face of the document itself to show that there was any board of inquiry in Halifax or at a neighbouring port.

DEPORTATIONS

The following statement shows the number of persons deported for causes subsequent to entry and the statutory causes for deportation:—

DEPORTATION, BY CAUSES, FROM EASTERN DISTRICT, FOR FISCAL YEAR, 1920-21

	To United States	To Other Countries
Accompanying	8	18
Ascites	..	1
Asthma	..	1
Blindness	..	1
Criminality	192	60
Deaf and dumb	1	..
Desertion	1	3
Drug habit	15	..
Epilepsy	..	5
Heart disease	..	1
Idiocy	..	1
Immorality	9	17
Insanity	12	39
Mentally weak	..	5
Neuritis	..	1
Prostitution	2	..
Public charges	29	133
Tuberculosis	..	6
Vagrancy	29	4
Totals	298	296

INVESTIGATIONS

Investigations are conducted by agents or inspectors in charge and also by three investigating officers, e.g., the agent in Toronto made 3,919 investigations. Some idea of the volume of the business transacted in the Toronto office may be obtained from the volume of correspondence. The number of letters received was 8,743 and the number of letters mailed was 14,159. The investigating officer for the province of Ontario conducted 171 investigations and heard 164 cases. The investigating officer for the Maritime Provinces conducted 63 investigations, heard 6 cases and visited the homes of 60 British immigrant children. Investigating officers visit penal institutions where cases are heard and investigations made by order issued by the minister under section 42 of the Immigration Act. In addition to criminal cases these investigations cover all causes for deportation subsequent to entry. Investigations are also made regarding the entry of persons who make application for naturalization, settlement arrangements in connection with applications of persons in Canada who desire the entry of their relatives or friends and also cover a variety of other miscellaneous subjects.

MANIFESTS

The department has decided to discontinue the large manifest and to examine passengers from form 30A. The purser will deliver the original form to the passengers before they disembark and passengers will hand form 30A to the examining officer on the line of inspection. The passengers of several vessels have already been examined under the new system which has at least one advantage, viz., the form shows the medical examiner what replies were made by passengers to questions touching mental and physical conditions. The new system commenced shortly after the opening of navigation at Quebec. Time and experience will show whether there is any improvement in the new method.

BUILDING AND EQUIPMENT

Quebec.—Arrangements have been made to again use Savard Park hospital so that more accommodation will be available in the Immigration building at Quebec for civil detentions. Separate accommodation is also being provided for British and foreign immigrants.

St. John.—As a result of the number of immigrants who were detained at St. John immediate steps were taken to increase the accommodation at West St. John. An additional structure was erected over the new baggage shed to accommodate civil detentions and the old detention building was equipped as a hospital for medical detentions.

CANADA

REPORT

OF THE

MINISTER OF PUBLIC WORKS

ON THE

WORKS UNDER HIS CONTROL

FOR THE

FISCAL YEAR ENDED MARCH 31

1921

Submitted in Accordance with the Provisions of Chapter 39, Section 34, of the Revised Statutes of Canada

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1921

To General His Excellency the Right Honourable Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O., Governor General and Commander in Chief of the Dominion of Canada.

I have the honour to lay before Your Excellency the Report of the Department of Public Works of Canada, for the fiscal year ended March 31, 1921.

I have the honour to be, sir,

Your Excellency's most obedient servant,

F. B. McCURDY,

Minister of Public Works.

OTTAWA, November 17, 1921.

CONTENTS

REPORTS OF:—

DEPUTY MINISTER.

CHIEF ARCHITECT.

CHIEF ENGINEER.

GENERAL SUPERINTENDENT OF TELEGRAPHS.

COLLECTOR OF REVENUE.

CHIEF ACCOUNTANT.

LAW BRANCH.

NATIONAL GALLERY.

ALPHABETICAL INDEX TO REPORT

Names of Places, etc.	Page.
A	
Abercrombie, N.S.	165
Accountant's report	142
Acton, Ont., post office	145
Acton Vale, P. Q., public building.	153
Advertising	164
Advocate, N.S.	165
Agassiz, B.C., experimental farm.	162
Ainsworth, B.C.	175
Alberni, B.C., post office	162
Alberta telegraphs	129–179
Albion, B.C.	175
Alexandria, Ont., public building	13–153
Alice Arm, B.C.	175
Almonte, Ont., public building.	153
Amherstburg, Ont., public building	153
Amherst, P.Q.	170
Amherst, N.S., bublic buildings.	142
Annandale, P.E.I.	168
Annapolis, N.S., public buildings	11–142
Anse à L'Eau, P.Q.	170
Anse aux Gascons, P.Q.	42–170
Anse St. Jean, P.Q.	170
Anticosti, P.Q., telegraphs	128–179
Antigonish, N.S., public building	142
Argenta, B.C.	175
Argyle Sound, N.S.	165
Arichat, N.S., public building	142
Arisaig, N.S.	165
Arnprior, Ont.	173
Arnprior, Ont., public building	153
Arrow Park, B.C.	175
Arthabaska, P.Q., public building	145
Art Gallery	8–227
Asbestos, P.Q., post office	145
Ashcroft, B.C., post office, etc.	162
Ashcroft-Dawson, telegraphs	179
Assiniboine River, Man.	175
Athabasca Landing, Alta., public buildings	160
Athens, Ont., post office	153
Atlin, B.C., post office	162
Aurora, Ont., post office	153
Avonport, N.S.	165
Aylmer, P.Q., post office	145
Aylmer, P.Q., wharf	170
Aylmer, Ont., post office	153
B	
Back Bay, N.B.	35–168
Baddeck, N.S., public building	142
Baie des Rochers, P.Q.	170
Baie du Vin, N.B.	168
Baie St. Paul, P.Q.	170
Baileys Brook, N.S.	165
Bakers Point, N.S.	165
Balfour, B.C., military building	190
Ballantynes Cove, N.S.	165

Names of Places, etc.	Page.
B	
Bamfield, B.C.	175
Banff, Alta., bridge	122–179
Banff, Alta., forestry office	160
" " military buildings	188
Barachois, N.S.	165
Barachois de Malbaie, P.Q.	170
Bare Point, Ont. (Port Arthur)	58–173
Barkers wharf, N.B.	168
Barnstone Island, B.C.	175
Barrie, Ont., public buildings	153–184
Barrington Cove, N.S.	165
Barrington Passage, N.S.	23–165
Barrys Bay, Ont.	173
Bassano, Alta. post office	160
Bass River, N.S.	23–165
Bath-Amherst, telegraphs	179
Bathurst, N.B., public building	144
Bathurst, N.B., harbour	35–168
Batiscan, P.Q.	42–170
Battery Point, N.S.	165
Battleford, Sask., public building	159
Bay St. Lawrence, N.S.	165
Bay of Fundy, telegraphs	128–179
Bayfield, Ont.	173
Bayfield, N.S.	165
Bay Fortune, P.E.I.	32–168
Bear Cove, N.S.	165
Beaton, B.C.	175
Beauharnois, P.Q.	170
Beauharnois, P.Q., post office	145
Beaumaris, Ont.	173
Beaverton, Ont.	173
Belfast, P.E.I.	168
Bella Coola, B.C., naval service	162
Belle River, P.E.I.	168
Belle River, Ont.	50–173
Belleville, Ont., public buildings	153
Belleville, Ont., wharf	173
Bellevue, N.S., hospital	20
Belliveaus Cove, N.S.	165
Beloeil, P.Q.	170
Berthier, P.Q.	42–170
Berthierville, P.Q., wharf	170
Berthierville, P.Q., public building	145
Bic, P.Q.	43–170
Big George Island, Man.	66–175
Big River, Sask., forestry office	159
Black Lake, P.Q., post office	145
Black River, N.B.	168
Blacks Harbour, N.B.	168
Blandford, N.S.	165
Blenheim, Ont., post office	153
Blind River, Ont.	173
Bluff Head, N.S.	165
Boisdale, N.S.	23–165
Bold Point, B.C.	175
Bonshaw, P.E.I.	168
Bonus paid	180

Names of Places, etc.	PAGE.
B	
Boswell, B.C.	175
Bowmanville, Ont.	50–173
" " public building	153
Bracebridge, Ont., post office	153
Brampton, Ont., public building	153
Brandon, Man., public buildings	17–157–187
Brantford, Ont., public buildings	153–184
Breton Cove, N.S.	165
Bridgeburg, Ont., public building	153
Bridges and roads	121–178
Bridgewater, N.S., public building	142
Brighton, Ont., public buildings	153
British Columbia telegraphs	129–179
Broad Cove, N.S.	165
Brockville, Ont., public buildings	153
Brockville, Ont., wharf	173
Bronte, Ont.	51–173
Brownsburg, P.Q., post office	145
Brownsville, B.C.	175
Bryson bridge	178
Buckingham, P.Q., public building	145
Buckingham, P.Q., wharf	170
Buctouche, N.B.	36–169
Burford, Ont., post office	153
Burks Falls, Ont.	173
Burks Head, N.S.	165
Burlington Centre, N.S.	165
Burlington, Ont., military hospital	184
Burlington channel, Ont.	51–173–178
Burnt Church, N.B.	169
Burton Court House, N.B.	169
Burton, B.C.	175
C	
Cabano, P.Q.	170
Cable Ship *Tyrian*	130–179
Cadboro Bay, B.C.	175
Caldwell's Cove, N.S.	165
Calgary, Alta., public buildings	160
Calgary, Alta., military hospital	189
Campbell River, B.C.	70–175
Campbellton, N.B., public building	144
" " wharf	169
Camp Hill, N.S., hospital	20
Campobello, N.B., public building	144
Canada Creek, N.S.	165
Canso, N.S., public building	142
Cap à l'Aigle, P.Q.	170
Cape Bald, N.B.	169
Cape Breton, N.S., telegraphs	128–179
Cap Rouge, P.Q., experimental farm	145
Cap Rouge, N.S.	165
Cap Santé, P.Q.	170
Cap St. Ignace, P.Q.	170
Cape Traverse, P.E.I.	168
Capilano, B.C.	175
Caraquet, N.B.	169
Cardinal, Ont., post office	153
Caribou, N.S.	165
Carleton Place, Ont., public building	153
Carman, Man., public building	157
Carrol's Landing, B.C.	175
Cascades, P.Q.	170
Caughnawaga, P.Q.	170
Cayuga, Ont., public building	153
Champlain, P.Q., dry dock	120
Champlain, P.Q.	170
Chandler, P.Q.	170
C	
Chapel Point, P.E.I.	168
Chapleau, Ont., post office	153
" " bridge	178
Charlottetown, P.E.I., public building	144–181
Charlottetown, P.E.I., dredging	32–168
Charlton, Ont.	173
Chase, B.C., public building	162
Chateauguay, P.Q.	170
Chatham, N.B.	169
Chatham, N.B., public buildings	144
Chatham-Escuminac, telegraphs	128–179
Chatham, Ont., public building	153–184
Chebogue, N.S.	165
Chegoggin, N.S.	165
Chemainus, B.C.	70–175
Chesley, Ont., public building	153
Cheticamp, N.S.	165
Chicoutimi, P.Q., harbour	170
Chicoutimi, P.Q., public building	145
Chicoutimi Basin, P.Q.	170
Chief Accountant, report	142
Chief Architect, report	11
Chief Engineer, report	23
Chilliwack, B.C.	175
Chilliwack, B.C., post office	162
Chimney Corner, N.S.	23–165
Chockfish, N.B.	169
Church House, B.C.	175
Clayoquot, B.C.	175
Clinton, Ont., public building	153
Coal Harbour, B.C.	175
Coaticook, P.Q., public buildings	145
Cobalt, Ont., post office	153
Cobourg, Ont., public buildings	153
Cobourg, Ont., harbour	53–173
Collector of revenue	133–180
Collection of slide and boom dues	137
Collingwood, Ont., post office	153
Collingwood, Ont., harbour	173
Collins Bay, Ont.	173
Columbia river, B.C.	70–175
Comox, B.C., post office	162
Compassionate allowances	180
Compton, P.Q., post office	145
Connaught Station, Ont.	53–173
Contracts let	193
Contrecoeur, P.Q.	170
Cookshire, P.Q., public building	145
Cornwall, Ont., public building	153
Coteau du Lac, P.Q.	170
Coteau Landing, P.Q.	170
Cote Ste. Catherine, P.Q.	170
Cottonwood, B.C.	72–175
Courtenay Bay, N.B.	40–169
Courtenay, B.C., military building	190
Courtenay River, B.C.	175
Coutts, Alta., immigration building	161
Cow Bay, N.S.	165
Cowans Cove, B.C.	175
Cracroft, B.C.	175
Cranbrook, B.C., public building	162
Crescent Bay, B.C.	176
Cribbins Point, N.S.	165
Crofton, B.C.	176
Crofts Cove, N.S.	165
Cross Point, P.Q.	170
Cumberland, B.C., public building	162
Cumberland, Ont.	173
Cummings Cove, N.B.	169

Names of Places, etc. PAGE.

D

Dalhousie, N.B. 169
Dalhousie, N.B., public building.. 144
Dartmouth, N.S., public buildings.. 142–181
Dauphin, Man., public buildings.. .. 17–157
Dauphin river, Man.. 67–175
Deep Cove, B.C.. 176
Deer Park, B.C.. 176
Degnans Bay, B.C.. 176
Delta, Man.. 67–175
Denmans Island, B.C. 176
Depot Harbour, Ont.. 173
Deputy Minister's report.. 1
Descente des Femmes, P.Q.. 170
D'Escousse, N.S.. 165
Deseronto, Ont., public building.. .. 153
Des Joachims bridge.. 178
Devils Island, N.S.. 24–165
Dewdney, B.C.. 176
Digby, N.S., public buildings.. 142
" " dredging.. 24–165
Digby Island, B.C.. 176
D'Israeli, P.Q.. 170
D'Israeli, P.Q., public building.. .. 145
Dodds Landing, P.Q.. 170
Dorchester County, telegraphs.. .. 179
Dorval, P.Q.. 170
Doucets Landing, P.Q.. 170
Douglastown, N.B.. 169
" P.Q.. 170
Dover, N.B.. 169
Dredging.. 3–84–178
Dredge vessels.. 94
Dresden, Ont., post office.. 153
Drum Head, N.S.. 165
Drummondville, P.Q., public building. 145
Dry Docks.. 120
Duncan, B.C., public buildings.. .. 162–190
Duncans Cove, N.S.. 165
Dundas, Ont., public building.. 154
Dundee, P.Q., custom house.. 145

E

East Angus, P.Q., public building.. 145
East Arrow Park, B.C.. 176
East End, N.S.. 165
Eastern Passage, N.S.. 165
East Ferry, N.S.. 165
East Jordan, N.S.. 165
East River, N.S... 25–165
East St. John, N.B., hospital.. .. 20
East Templeton, P.Q.. 170
Eatonville, N.S.. 25–165
Eburne, B.C.. 74
Echourie, P.Q.. 170
Edgetts Landing, N.B.. 169
Edgewood, B.C.. 176
Edmonton, Alta., public buildings.. 161–189
" " bridge.. 179
Edmonton South, Alta., public building 161–189
Edmundston, N.B., public buildings.. 144–181
" " bridge.. 178
Edson, Alta., immigration building.. 161
Eganville, Ont., post office.. 154
Egmont, B.C.. 176
Elmira, Ont., post office.. 154
Elora, Ont., post office.. 154
Emerson, Man., public buildings.. .. 158
Erieau, Ont.. 173
Esquimalt, B.C., graving dock.. .. 120–135–138–176

Names of Places, etc. PAGE.

E

Esquimalt, B.C., hospitals, etc 190
Essex, Ont., public building.. 154
Estevan, Sask., public buildings.... 159
Etang du Nord, P.Q.. 170
Expenditure.. 1–192

F

Fabre, P.Q.. 43–170
Fairhaven, N.B.. 169
Fairville, N.B., post office.. 144
Farnham, P.Q., public buildings.. .. 145
Farmers Landing, B.C.. 176
Fassett, P.Q.. 170
Father Point, P.Q.. 170
Feltzen South, N.S.. 165
Fergus, Ont., public building.. 154
Fernie, B.C., public building.. 162–190
Fernwood, B.C.. 176
Ferries.. 137–141
Fighting Island, P.Q.. 173
Flags for public buildings.. 164
Fort Coulonge, P.Q.. 170
Fort William, Ont.. 54–173
Fort William, Ont., public buildings. 154–184
Fourchu, N.S.. 165
Frank, Alta., hospital.. 189
Frasers Landing, B.C.. 176
Fraser River, B.C.. 73–176
Fraserville, P.Q., public buildings.. 145–182
Fredericton, N.B., public buildings.. 144–181
Freeport, Ont., sanatorium 184
Freeport, N.S... 165
French River, Ont.. 173
French River, N.S.. 25–165
Friars Head, N.S.. 165
Fruids Point, N.S.. 165

G

Gabarus, N.S.. 165
Galt, Ont., public buildings.. 154
Gananoque, Ont., public buildings .. 154
Gananoque, Ont., wharf.. 173
Gaspé Basin, P.Q.. 170
Gatineau Point, P.Q.. 170
Gautreau Village, N.B.. 169
Georgetown, P.E.I.. 33–168
Georgetown, P.E.I., public building.. 144
Georgeville, N.S.. 165
Gibson Landing, B.C.. 176
Gibson Shoal, B.C.. 176
Gimli, Man., post office.. 158
" " wharf.. 175
Glace Bay, N.S., public building.. .. 142–181
Glace Bay, N.S... 26–165
Glencoe, Ont., post office.. 154
Goderich, Ont... 173
Goderich, Ont., public buildings.. .. 154–184
Goose Bay, N.S.. 165
Gower Point, B.C.. 176
Grace Harbour, B.C.. 176
Graham, B.C.. 176
Graham, P.Q.. 170
Granthams Landing, B.C.. 76–176
Grahams Pond, P.E.I.. 168
Granby, P.Q., public building.. 12–145
Grand Anse, N.B.. 169
Grand Bend, Ont. 173
Grand Entree, P.Q. 170

Names of Places, etc.	Page.
G	
Grand Etang, N.S., bridge	178
Grand Falls, N.B., post office	144
Grand Forks, B.C., public building	162
Grand Narrows, N.S.	165
Grand Nord, P.Q.	170
Grand Prairie, Alta., public building	161
Grande Riviere, P.Q.	43–170
Granville Centre, N.S.	165
Gratuities paid	180
Gravelbourg, Sask., public building	159
Graving, docks	120–135
Gray's Creek, B.C.	176
Greenwood, B.C., post office	162
Grimsby, Ont., public buildings	154
Grondines, P.Q.	170
Grosse Coques, N.S.	165
Grosse Isle, P.Q., telegraphs	179
Grosse Isle, P.Q., quarantine station	13–146–170
Grosse Roche, P.Q.	170
Grouard, Alta., immigration building	161
Guelph, Ont., public building	154–184
Guysborough, N.S., public building	142
H	
Haggerties' wharf, P.E.I.	168
Haileybury, Ont.	54–120–173
Haileybury, Ont., military buildings	184
Halcyon, B.C.	176
Half Island Cove, N.S.	165
Halifax, N.S., public buildings	11–142–181
Halifax, N.S., military buildings	20
Halifax, N.S., graving dock	166
Hamilton, Ont., public buildings	13–154–184
Hampton, N.B., public building	144
Hanover, Ont., post office	154
Harbour and river works	2–23
Harbourville, N.S.	166
Hardy Bay, B.C.	176
Harricanaw river, P.Q.	44–171
Harriston, Ont., public building	154
Harrop, B.C.	176
Harrow, Ont., tobacco curing station	154
Hartland, N.B., post office	144
Hatzic, B.C.	176
Hawkesbury, Ont., public building	154
Hawkestone, Ont.	173
Heating, lighting, etc.	142
Hecla, Man.	67
Hemmingford, P.Q., public buildings	146
Hespeler, Ont., post office	154
Hickey's wharf, P.E.I.	168
High River, Alta., immigration building	161
Hillsborough, N.B., post office	144
Hilton, Ont.	173
Hiltz Narrows, N.S.	166
Holland river, Ont.	173
Hollyburn, B.C.	76–176
Honfleur, P.Q.	171
Hope Bay, B.C.	176
Hopkin's Landing, B.C.	176
Howe Sound, B.C.	176
Hubbard's Point, N.S.	166
Huestis Landing, N.B.	169
Hull, P.Q., wharf	171
Hull, P.Q., public buildings	146–182
Humboldt, Sask., post office	159
Huntingdon, B.C., immigration building	162
H	
Hunt's Point, N.S.	166
Huntsville, Ont.	173
Huntsville, Ont., post office	154
Hurst, B.C.	76–176
Huntingdon, P.Q., post office	146
I	
Iberville, P.Q., public building	146
Iberville, P.Q., wharf	171
Ile aux Coudres, P.Q.	171
Ile du Pads, P.Q.	171
Ile Perrot, P.Q.	171
Ile Verte, P.Q.	171
Indian Brook, N.S.	166
Indian Head, Sask., public buildings	18–159
Ingersoll, Ont., public buildings	154–185
Inspection boats	180
Invermere, B.C., experimental farm	162
Inverness, N.S.	166
Inverness, N.S., public building	143
Iona, N.S.	166
Irish Cove, N.S.	26–166
Irving's Landing, B.C.	176
J	
Jackson Bay, B.C.	176
Jeannette's Creek, Ont.	173
Jeddore, N.S.	166
Jericho Beach, B.C.	76–176
Jersey Cove, P.Q.	171
Joggin's Mines, N.S.	166
Johnston's Harbour, N.S.	166
Johnson's Landing, B.C.	176
Joliette, P.Q., public buildings	146
Jonquieres, P.Q., post office	146
K	
Kagawong, Ont.	54–173
Kamloops, B.C., public buildings	162–190
Kapuskasing, Ont., experimental farm	154
Kelly's Cove, N.S.	26–166
Kempt Head, N.S.	166
Kemptville, Ont., post office	154
Kenora, Ont., public buildings	154
Kenora, Ont., wharf	173
Kentville, N.S., public buildings	143
Keppoch, P.E.I., immigration building	144
Kerrobert, Sask., immigration building	159
Ketch Harbour, N.S.	166
Kiers Shore, P.E.I.	168
Killarney, Man.	67–175
Kincardine, Ont., post office	154
Kincardine, Ont., harbour	55–173
Kincolith, B.C.	176
Kindersley, Sask., public building	187
Kingston, Ont.	55–173
Kingston, Ont., public buildings	14–154–185
Kingston, Ont., graving dock	135
Kingsville, Ont.	55–173
Kingsville, Ont., post office	155
Kitchener (Berlin) Ont., public building	155
Knowlton, P.Q., public building	146

Names of Places, etc.	Page.
K	
Kouchibougouac, N.B.	36–169
Kokanee, B.C.	176
Kraut Point, N.S.	166
Kuskanook, B.B.	77–176
L	
Lac Bourget, P.Q.	171
Lachine, P.Q., public buildings	146–182
Lachute, P.Q., public buildings	146–182
Lacolle, P.Q., immigration office	146
Lacombe, Alta., experimental farm	161
Ladysmith, B.C., public building	162
Ladysmith, B.C.	176
Lakefield, Ont., post office	155
Lake Megantic, P.Q.	171
Lands leased	211
Lanoraie, P.Q	171
Lansdowne, Ont., post office	155
Laprairie, P.Q.	171
Laprairie, P.Q., public building	146
Larry's River, N.S.	166
L'Assomption, P.Q., public building	146
Lauzon, P.Q., dry docks	171
Lavaltrie, P.Q.	171
Lawlors' Island, N.S.	11
Leamington, Ont., wharf	173
Leamington, Ont., public building	155
Lennoxville, P.Q., experimental farm.	146
Leonardville, N.B.	169
Le Pas, Man., post office, etc.	158
" " wharf	175
Les Eboulements, P.Q.	171
Lesser Slave River, Alta.	175
Lethbridge, Alta., public buildings.	161–189
Levis, P.Q., harbour	171
" " dry dock	135–139
" " post office	146
Lindsay, Ont., public building	155
L'Islet, P.Q.	171
Listowel, Ont., public buildings	155
Litchfield, N.S.	166
Little Aldouane, N.B.	169
Little Bass River, N.S.	166
Little Bras d'Or, N.S.	166
Little Brook, N.S.	166
Little Current, Ont.	56–173
Little Narrows, N.S.	166
Liverpool, N.S., public building	143
Liverpool, N.S., dredging	27–166
Livingston Cove, N.S.	27–166
Lloydminster, Sask., public buildings.	159
Lloyd Point, B.C.	176
Lockport, Man., locks and dams	67
Loggieville, N.B.	169
London, Ont., public buildings	155
London, Ont., hospital	20–185
Long Bay, B.C.	176
Long Beach, B.C.	176
Long Point, N.S.	166
Longueuil, P.Q., public building	146
Lords Cove, N.B.	169
L'Orignal, Ont., post office	155
L'Orignal, Ont., wharf	56–173
Lorraine, Ont.	173
Lotbinière, P.Q.	171
Louiseville, P.Q., post office	146
Louiseville, P.Q.	171
Lower Kingsburg, N.S.	166
Lower L'Ardoise, N.S.	166
Lower Newcastle, N.B.	169
L	
Lower Plymouth, N.S.	166
Lund, B.C.	176
Lunenburg, N.S., public building	143
Lunenburg, N.S., dredging	166
Lyall, B.C.	77–176
M	
McAllisters, N.B.	169
McDonalds Landing, B.C.	176
McGregor's Creek, Ont.	174
McKay's Point, N.S.	166
McNair's Cove, N.S.	27–166
Mabou, N.S.	166
MacLaren's Landing, Ont.	174
Macleod, Alta., public building	161
Magar's Landing, B.C.	176
Magdalen Islands, P.Q., telegraphs	128–179
Magog, P.Q.	171
Magog, P.Q., public building	146
Maguasha, P.Q.	171
Maitland, N.S.	166
Malignant Cove, N.S.	166
Manson's Landing, B.C.	176
Maple Creek, Sask., public building	159
Marble Mountain, N.S.	166
Margaree, N.S.	27–166
Marieville, P.Q., public building	146
Maritime Provinces, telegraphs	179
Markham, Ont., post office	155
Marksville, Ont.	174
Marysville, N.B., public buildings	144–181
Masson, P.Q.	171
Matane, P.Q., post office	146
Matsqui, B.C.	176
Mayne Island, B.C.	77–176
Meaford, Ont.	174
Meat Cove, N.S.	166
Medicine Hat, Alta., public building	161–189
Mégantic, P.Q., post office	146
Melbourne, N.S.	166
Melfort, Sask., post office	159
Melita, Man., post office	158
Merrickville, Ont., post office	155
Meteghan, N.S.	166
Middle South, N.S.	28–166
Midland, Ont., post office	155
Mildmay, Ont., post office	155
Military buildings	4–20–181
Mill Bay, B.C.	176
Mill Cove, N.B.	169
Mill Creek, N.S.	166
Millers Landing, B.C.	176
Milltown, N.B., public building	145
Milton, Ont., post office	155
Milverton, Ont., post office	155
Miminegash, P.E.I.	168
Minnedosa, Man., public building	158
Miramichi Bay, N.B.	169
Miramichi River, N.B.	37–169
Mirror Lake, B.C.	177
Miscellaneous	180
Mitchell, Ont., public building	155
Moncton, N.B., public buildings	145–182
Moncton, N.B., wharf	169
Monetville, Ont.	174
Montague, P.E.I., public building	144
Montebello, P.Q.	171
Mont Joli, P.Q., post office	146–147
Mont Louis, P.Q.	171
Montmagny, P.Q., public buildings	146

Names of Places, etc.	Page.
M	
Montmagny, P.Q., wharf	171
Montreal River, Ont.	174
Montreal, P.Q., public buildings	13–146–182
Montreal, P.Q., dry dock	171
Monuments	180
Moose Bay, P.Q.	171
Moosejaw, Sask., public buildings	22–159–187
Moosomin, Sask., land office	159
Morden, N.S.	166
Morden, Man., post office	158
Moresby Island, B.C.	77–177
Mossy River, Man.	175
Mount Forest, Ont., public building	155
Mulgrave, N.S.	28–166
Murray Bay, P.Q.	44–171
Murray Bay, P.Q., post office	147
Murray Harbour, P.E.I.	168
Musquodoboit, N.S.	166
N	
Naas River, B.C., improvements	78–177
Naas River, B.C., public building	19
Naas River, B.C., residence for Fisheries Overseer	162
Nahun, B.C.	177
Nanaimo, B.C., public buildings	162–190
Nanaimo, B.C., dredging	177
Napanee, Ont., public buildings	79–155
Napierville, P.Q., post office	147
Nappan, N.S., experimental farm	143
Naramata, B.C.	79–177
National Art Gallery	8–227
Needles, B.C.	177
Neepawa, Man., post office	158
Negro Point, N.B.	39–169
Neils Harbour, N.S.	166
Nelson, B.C., public buildings	162–190
Newcastle, N.B.	169
Newcastle, N.B., public building	145
New Campbellton, N.S.	28–166
New Carlisle, P.Q.	171
New Glasgow, N.S., public buildings	143–181
New Harbour, N.S.	166
New Liskeard, Ont.	174
Newmarket, Ont., public buildings	155–185
New Mills, N.B.	169
Newport Landing, N.S.	166
New Richmond, P.Q.	171
New Westminster, B.C.	177–190
New Westminster, B.C., public buildings	162
Niagara Falls, Ont., public buildings	155
Nicolet, P.Q., public buildings	147
" " wharf	171
Nicomen Slough, B.C.	176
Nominingue, P.Q., immigration building	147
Nootka Island, B.C.	177
North Battleford, Sask., public building	159
North Bay, Ont., breakwater	174
North Bay, Ont., public building	155
North Head, N.B.	169
North Ingonish, N.S.	166
North Lake, P.E.I.	33–168
North Portal, Sask., immigration building	159
North Shore, St. Lawrence, telegraphs	128–179
North Sydney, N.S., public buildings	143
" " wharf	166
N	
North Timiskaming, wharf	45–171
" " bridge	122–178
North Vancouver, B.C., public building	162
Northwest Miramichi, N.B.	37
North Wiltshire, P.E.I. hospital	20–181
Norway Bay, P.Q.	171
Norwich, Ont., post office	155
Notre-Dame de la Salette, P.Q.	171
Notre-Dame des Quinze, P.Q.	171
Notre-Dame des Sept Douleurs, P.Q.	45–171
Nyanza, N.S.	166
O	
Oak Point, N.B.	169
Oakville, Ont.	57–174
Ogilvies, N.S.	166
Okanagan Centre, B.C.	177
Okanagan river, B.C.	78–177
Oliphant, Ont.	174
Orangeville, Ont., public building	155
Orillia, Ont., public buildings	155–185
Oromocto, N.B.	169
Oshawa, Ont., post office, etc.	14–155
" " vocation office	185
Ossekeag, N.B., post office	144
Ottawa, Ont., art gallery	8–150–227
" " buildings and grounds	14–150
" " experimental farm	16–150
" " Government House	150
" " public buildings	5–150–183
" " roads and bridges	121–178
" " slides and booms	134
" River Storage	123–180
Owen Sound, Ont., public buildings	155–185
Owen Sound, Ont., wharf	57–174
Owls Head, N.S.	166
Ovama, B.C., canal	179
Oyster Pond, N.S.	29–166
P	
Pacific Highway, B.C., immigration office	162
Palmerston, Ont., post office	155
Paris, Ont., public building	155
Parkers Cove, N.S.	166
Parkhill, Ont., public building	155
Parliament buildings, Ottawa	5
Parrsboro, N.S.	167
Parrsboro, N.S., public building	143
Parry Sound, Ont.	174
Partridge Island, N.B.	12
Paspebiac, P.Q.	171
Peachland, B.C.	177
Peace River Crossing, Alta., public buildings	161
Pelee Island, Ont., telegraphs	129–179
Pelee Island, Ont., piers	57–174
Pembroke, Ont., public buildings	17–155
Pembroke, Ont., wharf	174
Pender Harbour, B.C.	177
Penetanguishene, Ont.	174
Penticton, B.C., military building	190
Perkin's Landing, P.Q.	171
Perth, Ont., public buildings	155
Petawawa, Ont.	174
Peterborough, Ont., public buildings	155–185
Petite Riviere, N.S.	167
Petit Rocher, N.B.	38–169
Petrolia, Ont., public building	155
Phillipsburg, P.Q.	171

Names of Places, etc.	Page.
P	
Picton, Ont., public buildings	155
Pictou, N.S., public buildings	143
Pictou, N.S., harbour	29–167
Pierreville, P.Q., public building	147
Pierreville, P.Q., wharf	171
Pike Creek, Ont.	174
Pincher Creek, Alta., forestry office.	161
Pinette, P.E.I.	168
Piper's Cove, N.S.	167
Pleasant Bay, N.S.	167
Plessisville, P.Q., post office	147
Pointe à Brousseau, P.Q.	171
Pointe à Elie, P.Q.	171
Pointe à Pizeau, P.Q.	46–171
Pointe aux Esquimaux, P.Q.	171
Pointe aux Trembles, P.Q.	45–171
Pointe Cavagnole, P.Q.	171
Pointe Dansereau, P.Q.	171
Point Edward, Ont.	174
Pointe Madeleine, P.Q.	171
Pointe Piché, P.Q.	171
Point Tucker, N.S.	167
Portage la Prairie, Man., public buildings	18–158
Portage du Fort bridge	178
Port Alberni, B.C., post office	162
Port Alberni, B.C., wharf	79–177
Port Alfred, P.Q.	46–171
Port Arthur, Ont. (*See* Bare Point).	58–173–174
Port Arthur, Ont., public buildings	156
Port au Persil, P.Q.	171
Port Beckerton, N.S.	167
Port Burwell, Ont.	60–174
Port Colborne, Ont., public building.	156
Port Colborne, Ont., breawaters	60–174
Port Clements, B.C.	177
Port Daniel, P.Q.	171
Port Dover, Ont.	174
Port Dufferin East, N.S.	167
Port Elgin, Ont.	174
Porter's Lake, N.S.	167
Port Essington, B.C.	177
Port George, N.S.	167
Port Greville, N.S.	167
Port Haney, B.C.	177
Port Hawkesbury, N.S.	167
Port Hood, N.S.	167
Port Hope, Ont.	60–174
Port Hope, Ont., public building	156
Port Joli, N.S.	167
Portland, Ont.	174
Port Lewis, P.Q.	171
Port Lorne, N.S.	167
Port Maitland, N.S.	167
Port Moody, B.C.	177
Portneuf, P.Q.	172
Port Perry, Ont., post office	156
Port Rowan, Ont.	174
Port Stanley, Ont.	60–174
Portuguese Cove, N.S.	167
Port Wade, N.S.	167
Poulamond, N.S.	167
Powell river, B.C.	79–177
Prescott, Ont., public buildings	156
Presqu'Isle, Ont.	174
Preston, Ont., post office	156
Prince Albert, Sask., public buildings.	159–187
Prince Edward Island, telegraphs	179
Prince Rupert, B.C.	79–177
" " " public buildings	162

Names of Places, etc.	Page.
P	
Prince Rupert, B.C., bridge	179
Princess Creek, B.C.	80–177
Printing and stationery	164
Proctor, B.C.	80–177
Properties purchased and sold	201
Properties leased	211
Providence Bay, Ont.	174
Public buildings	4–11
Puce, Ont.	174
Q	
Quaco, N.B.	169
Quarantine telegraphs	128
Quebec county, telegraphs	128–179
Quebec public buildings	12–145
Quebec city, harbour	172
Quebec city, public buildings	13–147–183
Queen's Bay, B.C.	177
Queen Charlotte City, B.C.	177
Quyon, P.Q.	172
R	
Recapitulation	192
Red Deer, Alta., public building	18–161
Red River, Man.	68–175
Refuge Bay, B.C.	177
Regina, Sask., public buildings	159–188
Renata, B.C.	177
Renforth, N.B.	169
Renfrew, Ont., public building	156
Rents	136
Repentigny, P.Q.	172
Restigouche, N.B.	169
Revelstoke, B.C., public buildings	162–190
Revenue	2
Richards Landing, Ont.	174
Richardson, N.B.	169
Richibucto, N.B., public building	145
Richibucto Cape, N.B.	39–169
Richmond, P.Q., public building	148
Ridgetown, Ont., post office	156
Rigaud, P.Q., public building	148
Rigaud, P.Q., wharf	172
Rimouski, P.Q.	46–172
Rimouski, P.Q., public building	148
Riverglade, N.B., sanatorium	182
Riviere aux Vases, P.Q.	172
Riviere Blanche, P.Q.	172
Riviere des Vases, P.Q.	172
Riviere du Lievre, P.Q.	172
Riviere du Lievre, P.Q., lock	172
Riviere du Loup, P.Q.	172
Riviere Grande Cascapedia, P.Q.	172
River John, N.S.	167
Riviere Ouelle, P.Q.	172
Riviere Pentecote, P.Q.	172
River St. Charles, N.B.	169
River St. Francis, P.Q.	46
River St. Louis, N.B.	169
Riviere St. Louis, P.Q., bridge	178
Riviere St. Maurice, P.Q., dredging	47–172
Roads and bridges	121–178
Roberval, P.Q., public buildings	148
Roberval, P.Q., wharf	172
Roberts Bay, B.C., wharf	177
Roberts Creek, B.C.	177
Rock Island, P.Q., post office	148
Rocky Mountain, Alta., forestry office	161
Rondeau, Ont.	61–174
Rosseau, Ont.	174

Names of Places, etc. PAGE.

R

Rossland, B.C., public building.... 162
Ross Park School, Sask.. 22
Rosthern, Sask., experimental farm 159
Rothesay, N.B. 169
Roy, B.C. 177
Royston, B.C. 177
Ruisseau LeBlanc, P.Q. 172
Running Creek, Ont.. 174
Russells, B.C. 177

St.

Ste. Agathe des Monts, P.Q., post office.. 148
St. Alphonse, P.Q... 172
St. Andrew's, N.B. 169
St. Andrew's, Man... 68–175–179
Ste. Anne de Beaupré, P.Q. 47–172
Ste. Anne de Bellevue, P.Q., post office.. 148
Ste. Anne de Bellevue, P.Q., hospital 183
Ste. Anne de Bellevue, P.Q., wharf.. 172
Ste. Anne de Chicoutimi, P.Q... 172
Ste. Anne de la Pocatiere, P.Q., experimental farm.. 148
Ste. Anne de la Pocatiere, P.Q.... 172
Ste. Anne de Sorel, P.Q. 172
Ste. Antoine de Richelieu, P.Q... .. 172
St. Boniface, Man., public building.. 158
St. Catharines, Ont., public buildings 156–185
St. Charles de Richelieu, P.Q... .. 172
St. Charles River, N.B... 39
St. Denis de Richelieu, P.Q. 172
St. Emilie, P.Q. 172
St. Eustache, P.Q., post office.. .. 148
Ste. Famille, P.Q. 47–172
St. Felix de Valois, P.Q., post office 148
St. Francois Isle d'Orleans, P.Q.. .. 47–172
St. Francois du Lac, P.Q. 172
St. Gabriel de Brandon, P.Q., post office.. 148
Ste. Genevieve de Batiscan, P.Q... 172
St. George, N.B. 169
St. George de Beauce, P.Q., post office.. 148
St. Hyacinthe, P.Q., public building 148
Ste. Irénée les Bains, P.Q... 172
St. Jean d'Orleans, P.Q... 48–172
St. Jerôme, P.Q., public building.... 148
St. John, N.B., harbour.. 39–169
St. John West, N.B., public buildings.. 12–145–181
St. John West, N.B... 169
St. John, N.B., public buildings.. .. 145–182
St. John, N.B., county hospital.. .. 20
St. Johns, P.Q., public buildings.. 148
St. Johns, P.Q., booms.. 172
St. Joseph de Beauce, P.Q., post office.. 148
St. Joseph de Sorel, P.Q.. 48–172
St. Lambert, P.Q., post office.. 148
St. Laurent, P.Q.. 48–172
St. Leonards Bridge.. 178
St. Louis, N.B. 169
St. Marc, P.Q... 172
St. Mary's, Ont., public buildings.... 156–185
St. Mary's Bay, P.E.I... 168
St. Maurice River, dredging.. 47–172
St. Maurice River, works.. 134
St. Michel de Bellechasse, P.Q. 48–172

Names of Places, etc. PAGE.

St.

St. Nicholas, P.Q. 172
St. Ours, P.Q., wharf.. 172
St. Paul, P.Q. 172
St. Peters Bay, P.E.I. 168
St. Pierre les Becquets, P.Q.. 172
St. Régis, P.Q., customs office..... 148
St. Roch de Richelieu, P.Q. 172
St. Roch des Aulnais, P.Q... 172
Ste. Rose, P.Q., post office.. 148
St. Siméon, P.Q... 172
St. Stephen, N.B., public buildings .. 145–182
Ste. Thèrése, P.Q., public building.. 148
St. Thomas, Ont., public building.... 17–156
St. Tite, P.Q., post office.. 148
Ste. Victoire, P.Q.. 172
St. Williams, Ont.. 174
St. Zotique, P.Q.. 172

S

Saanichton, B.C. 177
Salaries of clerks of works.. 164
Salaries of engineers.. 178
Salmon Arm, B.C., fireranger's office 163
Salmon River, N.S... 167
Salmon River, B.C. 177
Sandheads, B.C. 75–176
Sandspit Point, B.C. 177
Sandwich, Ont., public building.. .. 156
Sandy Cove, N.S. 167
Sanford, N.S... 29–167
Sarnia, Ont., public buildings.. .. 156–185
Saskatoon, Sask., public buildings.. 160–188
Saskatchewan telegraphs.. 129–179
Saturna Island, B.C. 177
Saulnierville, N.S... 167
Sault Ste. Marie, Ont., public buildings.. 156–185
Sault Ste. Marie, Ont., harbour .. 62–174
Savary Island, B.C... 177
Saw Pit, N.S... 167
Sayabec, P.Q., post office.. 148
Scotch Cove, N.S. 30–167
Scotchtown, N.B. 169
Scott, Sask., experimental farm.. .. 160
Seaforth, Ont., public building.. .. 156
Seaforth, N.S... 167
Seal Cove, N.B... 169
Seaside, N.S..... 167
Selkirk, Man., public building.. .. 158
Selkirk, Man., wharf.. 69–175
Selkirk, Man., repair slip.. 136–140
Shawinigan, P.Q., post office.. 148
Shawville, P.Q., post office.. 148
Sheet Harbour, N.S. 167
Sheguindah, Ont.. 174
Shelburne, N.S., public building.. .. 143
Shelburne, N.S. 167
Shelburne, Ont., public building.. .. 156
Shenacadie, N.S. 30–167
Sherbrooke, P.Q., public buildings.. 148–183
Shippigan Gully, N.B. 41–169
Shoal Lake, Man., post office.. 158
Shoal Passage, B.C. 80
Short Beach, N.S. 167
Sidney, B.C., experimental farm .. 163
Sidney, B.C., wharf.. 80–177
Silver Centre, Ont.. 174
Simcoe, Ont., public building.. 156

Names of Places, etc. PAGE.

S

Skeena River, B.C. 177
Skidegate, B.C. 177
Smiley's Point, N.S. 167
Smiths Falls, Ont., public buildings 156
Sober Island, N.S. 30–167
Sorel, P.Q., public buildings 149
Sorel, P.Q., wharf 49–172
Souris, P.E.I., public building 144
Souris, P.E.I., breakwater 34–168
Souris, Man., post office 158
Southampton, Ont. 174
South Cove, N.S. 167
South East Cove, N.S. 167
South Gabriola, B.C. 81–177
South Gut, N.S. 167
South Ingonish, N.S. 167
South Lake, N.S. 167
Southport, P.E.I. 168
Spencer's Island, N.S. 167
Spiller River, B.C. 177
Spirit River, Alta., immigration building 161
Spry Bay, N.S. 167
Springhill, N.S., public building 143
Squamish, B.C., wharf 177
Stag Bay, B.C. 177
Stanhope, P.Q., immigration building 149
Stanstead Plain, P.Q., post office, etc 149
Steelton, Ont., post office 156
Stellarton, N.S., post office 143–181
Stevens Pier, P.E.I. 168
Steveston Jetty, B.C. 176
Stewart, B.C. 81–177
Stewart, B.C., immigration building 163
Stickine river, B.C. 81–177
Stonehaven, N.B. 169
Stonewall, Man., post office 158
Stony Island, N.S. 167
Stratford, Ont., public buildings 156
Strathroy, Ont., post office 156
Sturdies Bay, B.C. 177
Sturgeon Falls, Ont. 174
Sturgeon Falls, Ont., post office 156
Sudbury, Ont., public buildings 156
Sugar Loaf, N.S. 167
Summerland, B.C., experimental farm 163
Summerside, P.E.I., public buildings 144–181
Summerville, N.S. 167
Surveys and inspections 180
Sussex, N.B., public building 145
Sutherland, Sask., forest nursery station 169
Swift Current, Sask., public buildings 160–188
Sydenham River, Ont. 174
Sydney, N.S., public buildings 143–181
" " harbour 30–167
Sydney Mines, N.S., public buildings 143
Syringa Creek, B.C. 177

T

Tadoussac, P.Q. 172
Telephones 127
Telegraph lines, generally 7–125–179
Telegraph lines revenue 126
Tennycape, N.S. 167
Terrance Bay, N.S. 167
Terrebonne, P.Q., public building 149
Test borings 178
Thames River, Ont. 63
The Pas, Man. 69

Names of Places, etc. PAGE.

T

The Points, N.S. 167
Thessalon, Ont. 174
Thetford Mines, P.Q., public building 149
Thetis Island, B.C. 81–177
The Wharves, N.S. 167
Thomas Creek, N.B. 169
Three Fathom Harbour, N.S. 167
Three Rivers, P.Q., harbour 49–172
" " public buildings. 149
Thurso, P.Q. 172
Tignish, P.E.I. 168
Tignish, P.E.I., public buildings 144
Tilbury, Ont., post office 156
Tillsonburg, Ont., post office 156
Timiskaming telegraphs 129–179
Tobermory, Ont. 174
Tofino, B.C. 177
Toronto, Ont., harbour 64–174
Toronto, Ont., public buildings 17–156
Toronto, Ont., military hospitals 22–185
Tracadie, N.B., lazaretto 145
Tracadie, N.B. 169
Transcona, Man., public buildings 158–187
Trent and Newcastle slides 135–174
Trenton, Ont., public buildings 157–187
Trenton, N.S., post office 143
" " dredging 25–167
Tressbank, Man., laboratory 158
Trois Lacs, P.Q. 172
Trois Pistoles, P.Q., post office 149
Trois Rivieres, P.Q. 49
Trout Cove, N.S. 167
Truro, N.S., public buildings 143
Tucker Bay, B.C. 177
Tynemouth Creek, N.B. 170
Tyrian ss. cable ship 130–179

U

Ucluelet, B.C. 177
Union Bay, B.C., post office 163
Unity, Sask., immigration building 160
Upper Ottawa storage dams 123–180
Upper Port Latour, N.S. 167
Uxbridge, Ont., post office 157

V

Valdez Island, B.C. 177
Valleyfield, P.Q., public building 149
Valleyfield, P.Q. 172
Van Anda, B.C. 177
Vancouver, B.C., public buildings 19–163–190
Vancouver, B.C., harbour 82
Vancouver Island telegraphs 129
Varennes, P.Q. 172
Vaudreuil, P.Q. 50–172
Vercheres, P.Q. 172
Verdun, P.Q., wharf 173
Vermilion, Alta., public buildings 161
Vernon, B.C., public buildings 163–191
Vernon River, P.E.I. 34–168
Vesuvius Bay, B.C. 177
Victoria, B.C., public buildings 163–191
Victoria, B.C., harbour 82–177
Victoria, P.E.I. 168
Victoria Beach, Man. 175
Victoria Bridge, N.S. 167
Victoriaville, P.Q., post office 149
Ville Marie, P.Q. 173
Vineland, Ont., laboratory 157
Virden, Man., post office, etc. 158
Voglers Cove, N.S. 168

Names of Places, etc.	Page.
W	
Wainwright, Alta., immigration building	161
Walkerton, Ont., public building	157
Walkerville, Ont., public building	157
Wallace, N.S.	168
Walton, N.S.	168
Wanipigow River, Man.	175
Washabuck, N.S.	168
Waterloo, Ont., public building	157
Watt Settlement, N.S.	168
Wedgeport, N.S.	168
Welchpool, N.B.	170
Welland, Ont., public buildings	17–157
Wellington, Ont.	174
Wendover, Ont.	174
West Arichat, N.S.	168
Westbank, B.C.	177
West Bay, N.S.	168
West Chezzetcook, N.S.	168
West Demars, B.C.	177
Westminster, Ont., hospital	20–185
West Point, P.E.I.	168
West Poplar, Sask., immigration building	160
Westport, N.S.	168
West River, P.E.I.	168
Westville, N.S., public building	143
Wetaskiwin, Alta., public buildings	161–189
Weyburn, Sask., post office	160
Weymouth, N.S., post office	143
Wheatley, Ont.	174
Whitby, Ont., public buildings	157
Whitby, Ont., breakwater	66–174
White Rock, B.C.	177
Wycocomagh, N.S.	168
Wiarton, Ont., public building	157
W	
Williams Head, B.C., quarantine station	83–164
Williams Head, B.C.	83–177
Williamson's Landing, B.C.	177
Willow Point, B.C.	177
Wilsons Beach, N.B.	42–170
Wilsons Landing, B.C.	178
Windsor, Ont., public buildings	157–187
Windsor, Ont., dock	174
Windsor, N.S.	168
Windsor, N.S., public building	143
Wingham, Ont., public building	157
Winnipeg, Man., public buildings	18–158–187
" " dredging	69–175
Winnipeg Beach, Man.	69
Winnipegosis, Man.	70
Wolfsohn Bay, B.C.	178
Wolfville, N.S., public building	143
Wood Islands, P.E.I.	35–168
Woodstock, N.B., public building	145
Woodstock, Ont., public building	157
Woodward Slough, B.C.	176
Wyatt, B.C.	178
Y	
Yamaska river, P.Q., lock and dam	173
Yarmouth, N.S.	31–168
" " public buildings	11–143
York, Ont., bridge	178
Yorkton, Sask., public building	160
Youngs Cove, N.B.	170
Young's Landing, N.S.	168
Yukon, public buildings	164
Yukon telegraphs	129

REPORT

OF THE

DEPUTY MINISTER OF PUBLIC WORKS

FOR THE

FISCAL YEAR ENDED MARCH 31, 1921

DEPARTMENT OF PUBLIC WORKS, CANADA

OTTAWA, October 5, 1921.

Honourable F. B. McCURDY,
Minister of Public Works,
Ottawa, Ont.

SIR,—I have the honour to submit the report of the Department of Public Works for the fiscal year ended March 31, 1921.

EXPENDITURE

The total expenditure incurred by the department during the fiscal year 1920-21, on its various works of construction, maintenance and operation amounted to the sum of $20,970,674.31, of which the sum of $1,217,892.07 is charged to Demobilization. The details of this outlay may be classified under the following subdivisions:—

Harbour and river works	$7,541,667 50
Dredging, plant, etc.	1,456,242 90
Roads and bridges	196,209 13
Public buildings	8,443,892 20
Telegraphs	1,083,242 05
Miscellaneous	1,031,528 46
Total	$19,752,782 24
Demobilization	1,217,892 07
Grand total	$20,970,674 31

As compared with the total for the previous year, even with a reduction in the war expenditure of over $3,000,000, there is an increase of $515,214.46 due principally to the expenditures made on harbour and river works at Courtenay Bay, St. John, N.B., Toronto, Fort William and Port Arthur, Ont., and Esquimalt, B.C., where the most important works of this class are in progress; an increase in the cost of dredges and dredging operations of about $250,000, and in telegraphs of nearly $200,000, while expenditures on other works remain about the same as last year.

REVENUE

The revenue for the year amounted to the sum of $725,129.30 and is made up as follows:—

Graving docks	$ 64,918 15
Rents	128,148 20
Telegraphs	330,470 43
Casual revenue	199,582 85
Ferries	2,009 67
	$725,129 30

The total revenue increase over the fiscal year 1919-20 is $92,039.04 and consists of $52,721.48 from telegraphs of which $27,634.52 was from British Columbia lines; $20,920.97 from Yukon; $2,706.28 from Cape Breton; $4,843.21 from the North Shore lines east of Bersimis, but there was a falling off of $4,814.61 in the northwest. Casual revenue shows an increase of $118,509.98, accounted for principally by an amount of $101,455 received from the sales of old buildings and lands. There is a decrease in revenue from the graving docks of $16,229.44 as a result of the difference in the length of dockages in the Lorne dock.

HARBOUR AND RIVER WORKS

The total expenditure in this branch of the Department of Public Works was $7,541,667.50, which is $3,221,086.58 greater than last year's outlay, in view of the prosecution of the scheme of development in some of the more important national harbours.

The following is a list of works which have been completed during the year:—

Nova Scotia.—Barrington Passage, wharf; Boisdale, new wharf; French River, wharf; Irish Cove, wharf; Kelly's Cove, block; Livingston Cove, block, and Shenacadie, wharf.

Quebec.—North Timiskaming, wharf, and Notre Dame des Sept Douleurs, extension to wharf.

Ontario.—Kagawong, new wharf; Union bridge between Ottawa and Hull, and bridge at North Timiskaming.

Manitoba.—Hecla wharf and Le Pas wharf.

British Columbia.—Campbell River, new float; Churchhouse, new float; Graham's Landing, wharf; Hollyburn, ramp; Hurst Island, float; Jericho Beach, float; Kuskanook, float; Naramata, wharf; Princess Creek, float; Proctor, float; South Gabriola Island, wharf, and Stewart, new wharf.

The following works were under contract, but unfinished at the end of the fiscal year:—

Nova Scotia.—Bass River, wharf.

Prince Edward Island.—North Lake, boat harbour.

New Brunswick.—Courtenay Bay, breakwater, dredging, dry dock, etc., and Lord's Cove, wharf.

Quebec.—Champlain, dry dock.

Ontario.—Fort William, revetment wall; Port Arthur (Bare Point), breakwater; Little Current, wharf, and Toronto harbour works and island breakwater.

Alberta.—Banff bridge on the Bow river.

British Columbia.—Esquimalt dry dock.

DREDGING

The sum expended under this heading amounted to $1,456,242.90, which is $250,756.97 in excess of the outlay of the previous year.

Shipping by water continued to increase towards its normal activity and, as far as possible, the department met the demands for dredging necessary to restore and maintain the required depths and widths in channels and harbours. The year saw the cost of labour and material reach the peak, and this increase is reflected in the cost of the various works.

Only such works as were considered of urgent importance in the public interest were carried out, and there were consequently a number of units of departmental plant not in commission. A number of these units were leased to private parties at considerable gain to the Government. In this way valuable units have been maintained at no cost to the department, but will be available for use when, as is expected, the water-borne commerce of the Dominion increases to such an extent as to warrant the Government meeting legitimate demands for increased facilities.

One small dredge was built for the improvement of navigable waters in the areas of northern Quebec made accessible by the Transcontinental railway. One dredge, four tugs and seven scows which had outlived their usefulness were disposed of. Tug *Hecla* was transferred to the Fisheries Branch, Marine Department, and other items not in commission by this department were loaned other departments, as required.

In British Columbia, operations were continued at the mouth of the Fraser river, and the channel of the North Arm of the Fraser river was dredged. Work was also done at Powell river, at Nanaimo, at William Head, at Shoal passage and Howe sound, and in removing Discovery rock, Victoria harbour. The channel of the Columbia river, between Upper and Lower Arrow lakes, was improved.

In Manitoba, navigation was maintained in the Red river, and at points on Lake Winnipeg. Dredging of a channel to the wharf at Le Pas was prosecuted, as was the cleaning up of the channel at Winnipegosis.

A further improvement in depth in the St. Mary's river at Sault Ste. Marie, Ontario, was effected. Maintenance dredging was done at Kincardine, on Lake Huron; at Port Burwell, Port Stanley, Rondeau and Kingsville, on Lake Erie; at the mouth of the Thames river in Lake St. Clair; and at Oakville, Whitby, Bowmanville, Port Hope, Cobourg and Kingston, on Lake Ontario. Congestion of freight traffic by rail, especially in the transportation of coal made the traffic in this commodity by water much heavier than usual. The increasing demand for road building materials in southwestern Ontario can most satisfactorily be met by water transport, and improvements were made to meet this demand.

In Quebec, work was carried on at Harricanaw river; at Isle du Pads, Doucet's Landing, Three Rivers, Batiscan and St. Francis river, on the St. Lawrence above Quebec; at Vaudreuil ou the Ottawa river; at Murray Bay and Port Alfred on the lower St. Lawrence.

In New Brunswick, to meet increased shipments by water, work was done at St. John, Bouctouche, Chatham, Kouchibouguac, North West Miramichi, St. Charles river, Newcastle and Bathurst.

In Nova Scotia, work was done at Digby, Liverpool, Sydney, New Campbellton, Pictou, Windsor, Fourchu, Trenton, Glace Bay, Ballantyne's Cove, Yarmouth, Margaree, Chimney Corner, Mulgrave, Point Tupper, Middle South and Lunenburg.

In Prince Edward Island work was performed at Charlottetown, Vernon River, Bay Fortune and Georgetown.

Special reports to the number of ninety-five were forwarded during the year to the Departments of Marine and Fisheries and of the Naval Service, covering works

of dredging performed during the season, so that mariners might be kept acquainted by means of alterations of charts and Notices to Mariners, with such work as had been accomplished.

In the further interest of efficiency, various departments of the Government which had knowledge of a special nature relating to problems presented to this department, have been consulted to considerable advantage.

Dredging operations were carried on at the following places where an expenditure of $10,000, or over, was made:—

Nova Scotia.—Digby, Liverpool, Glace Bay, Pictou, Yarmouth, Margaree.

New Brunswick.—St. John, Buctouche, Newcastle, Bathurst.

Prince Edward Island.—Charlottetown, Vernon River, Bay Fortune.

Quebec.—Port Alfred, Batiscan, Doucet's Landing, Three Rivers, River St. Francis, Vaudreuil, Harricanaw river.

Ontario.—Thames river, Kingsville, Port Burwell, Port Stanley, Bowmanville, Oakville, Port Arthur.

Manitoba.—Red river, Big George island, The Pas, Winnipegosis.

British Columbia.—Powell river, Shoal passage, Howe sound, Fraser river, Main channel, Fraser river, North Arm, Columbia river, Victoria.

PUBLIC BUILDINGS

The sum expended on the construction, maintenance and repairs of public buildings throughout the Dominion, exclusive of military hospitals and buildings, was $8,443,892.20 which is practically the same as the outlay made during the last fiscal year. Of this amount, $3,574,779.65 was expended on the construction and improvement of public buildings, and $4,869,112.55 in repairs and maintenance.

The following buildings were completed during the year:—

Nova Scotia.—Annapolis and Yarmouth, restoration of public buildings partially destroyed by fire; and at Lawlor's Island Quarantine Station, a pump-house.

Quebec.—Granby, addition to public building; Montreal, addition to Central Post Office building, and at Grosse Isle Quarantine Station, a boiler-house.

Ontario.—Hamilton, postal station "B"; Kingston, wing to Military College; Oshawa, addition to public building; at Ottawa, the War Trophies building, Ore Dressing Laboratory and several buildings at the Experimental Farm.

Manitoba.—Brandon and Portage la Prairie, addition to public buildings.

Saskatchewan.—Indian Head Forestry office.

MILITARY BUILDINGS

Nova Scotia.—Bellevue, Halifax, new ward building and alterations; Camp Hill, administration building and laundry.

Ontario.—London, several isolated buildings at Westminster hospital; and at Toronto an orthopædic officers' ward building.

British Columbia.—Vancouver, Fairmount barracks alterations and new stables.

The following buildings were still under contract at the close of the fiscal year:—

Ontario.—Parliament buildings at Ottawa; Kingston, an Educational Block at the Military College; and at Toronto, postal station "A."

RECONSTRUCTION OF PARLIAMENT BUILDINGS, OTTAWA

During the session of 1920, it was found impossible to continue the work in the building, and the contractor's force was reduced to a minimum. During the first week of July, 1920, work was reorganized at the building. Temporary structures, such as partitions, etc., erected for the session were removed and the installation of permanent work was continued.

Erection of stonework on the Tower commenced during the week of September 13, 1920, and was continued up to the sill course of the third floor windows. The work was shut down and closed in for the winter during the first week of November, 1920, at which time a height of forty feet above the ground had been reached. Operations were resumed in the early spring.

At the opening of the session of 1921, the whole of the building was being occupied, except the rooms about the main entrance on the lower floors, where the inability to complete the cutting of the stone for the main entrance made it impossible to finish the work.

The following is a more detailed report of the progress of the work during the year:—

Interior Masonry.—Since work was resumed in July, 1920, the stonework in the Senate Chamber has been completed and stonework and marble work has been completed in the staircases on the Senate side with the exception of those at the east end of the north and south corridors. Setting of stone and marble in the walls of the Court of Honour has proceeded, except in the main entrance passage to the Library from the north corridor and cross-passages to Commons Reading Room and Railway Committee Room, which have been entirely completed including the groined vaulting of stone. The stone for ceiling of the Court of Honour and for the walls and ceiling of the Main Entrance Hall is now in hand in the stone shop on Sussex street, and setting will commence at the close of the session of 1921. The work at the building is so far advanced, however, as to give full use of the main corridors and cross-passages throughout. On the ground floor, the Main Entrance Hall (through the Tower) is still in the hands of the contractors. The stone for this portion is being cut and will be set in conjunction with that on the floor above.

Marble Work.—With the exception of the marble base and steps, etc., that will be built in with the stone work in the Main Entrance Hall and staircase mentioned above, the marble work throughout the building is virtually completed. During the summer and fall of 1920, the ashlar work in the corridors of the fourth and fifth floors was completed, as well as the elevator halls, radiator backs and safes and lavatories, including a new layout in the barber shops, on both Commons and Senate sides.

Plumbing Work.—Temporary fixtures were erected in the lavatories where marble was not completed, for use during the session of 1920. These have been removed, and permanent installation of the fixtures has been made. The plumbing contract has been completed, and the work was handed over to the Department of Public Works at the beginning of February, 1921.

Carpentry and Finished Woodwork.—Panelling, etc., in special rooms, oak panelling and screens in the Senate Chamber, Senate Reading Room, suite of rooms to the east of the Senate and in the Main floor pavilion rooms, have been erected, and woodwork in and around restaurant entrance and private dining rooms, top floor, and ladies' reception room, main floor, has been installed. Work in this trade is now practically completed.

Painting.—Work has been continued on painting of offices and corridors, and has been completed on the upper floors. Nothing has yet been done with the corridor ceiling on the main and third floors. Corridors and rooms on the ground floor are,

generally speaking, painted. In all cases wall cloth and burlap were applied to the walls before painting. The pavilion rooms and freize in panelled rooms have been papered with decorative paper in keeping with the panelling.

Decorative Work.—Contracts were made during the year for the decoration of the Commons and Senate Chamber ceilings, corridor ceiling around Commons Entrance Hall and for the Senate Railway Committee Room. This work was carried out and completed in time for the opening of the 1921 session of Parliament.

Elevators.—Installation of all elevators, including electric signal system and pneumatic door-opening devices, has been completed, and the elevators handed over to the Department of Public Works.

Stair Balustrade.—No permanent balustrades were installed on marble stairs for the session of 1920. They have since been installed on the stairs in the west part of the building only; the remainder will be put in at the close of the session of 1921, and after the erection of the marble stairs in the east end of the building. The contract for stairs to the top floor from the fifth floor in the south stairway has been completed.

Electrical Clocks.—The electric clock system has been installed and is now working satisfactorily.

Kitchen and Refrigeration Equipment.—These were both installed since the session of 1920, and were ready for use at the opening of the Restaurant for the session of 1921.

Granite Steps, Sidewalks, Etc.—A commencement was made with the laying of sidewalks during the summer of 1920, but the failure of the contractors to deliver the material contracted for, made it necessary to close down the work. A new contract has been made for delivery of the remainder of the material in the spring of 1921.

Bronze Revolving Doors to Commons and Senate Entrances.—These have been contracted for, but have not yet been installed.

Labour.—Labour conditions have been fair during the year and without disputes. The standard rate of wages as approved by the Department of Labour, has been adhered to, except that it was found necessary to give the plasterers a bonus of fifteen (15) cents per hour since November 15, 1920, in order to hold the men on the job, as in other buildings in the city the bonus was being paid. There seemed to be a scarcity of mechanics in the trade during the whole year.

The average daily force employed by the general contractors and the sub-contractors during the year has been 415.

Advisory Board.—During the year, fourteen meetings of the Advisory Board and six meetings of the Joint Committee on the reconstruction of the Parliament Buildings have been held.

Contracts.—The general contractors, with the approval of the board and the committee, have entered into the following sub-contracts, since the last report was submitted:—

On the 2nd September, 1920, authority was given to enter into a contract with the Architectural Bronze and Iron Company, Toronto, Ont., for bronze revolving doors and enclosures, at $12,800.

On the 4th November, 1920, authority was given to enter into a contract with the Stanstead Granite Quarries, Limited, Beebe, Que., for granite steps, flagging, curbing and pitchings, at $55,787:

Acting upon the recommendation of the Special Committee appointed for that purpose, a contract was entered into on the 21st September, 1920, with Major R. Tait McKenzie, M.D., Sculptor, Philadelphia, Pa., for the designing and casting, for the sum

of $12,000, of a statue of the late Lieutenant-Colonel George Harold Baker, M.P., for Brome, Que., who lost his life on the field of battle, which is to be placed in the lobby of the House of Commons.

In addition to the above, the following orders have been placed direct by the architect for furniture and decorations, with the assent of the Joint Committee:—

Commons Chamber—	
Front row desks (Geo. Roberts, Montreal, Que.)	$ 6,160 00
Tables for floor of House (Henry Morgan Co., Montreal), also chairs for floor of House (Henry Morgan & Co., Montreal)	3,883 00
Members' chairs (Castle & Son, Montreal)	23,712 00
Senate Chamber—	
Members' desks (Bromsgrove Guild, Montreal)	12,550 00
Furniture for floor (J. C. Scott Co., Toronto)	2,021 50
Chairs for floor of Senate (Castle & Son, Montreal)	750 00
Senators' chairs (Castle & Son, Montreal)	8,910 00
Seating in galleries (Globe Furniture Co., Waterloo, Ont.)	6,748 50
Restaurant—	
Chairs (Castle & Son, Montreal)	10,185 00
Tables (R. A. Sproule, Ottawa)	2,183 50
Serving tables (Valley City Co., Dundas, Ont)	2,400 00
Decoration of Commons ceiling and entrance halls (Mack, Jenny & Tyler, New York)	33,000 00
Decoration of Senate ceiling (Mack, Jenny & Tyler, New York)	18,000 00
Decoration of Senate Railway Committee Room (A. Pasturia, New York)	4,000 00
Carpet—In Senate Chamber, Senate Reading Room and suite of rooms east of Senate—(Governor General's), (Cleghorn & Beattie, Ltd)	5,925 00

TELEGRAPHS

To conform with the practice of commercial telegraph companies, the Telegraph Branch will, in future, report on length of pole mileage as distinguished from wire mileage, and for the present fiscal year reports the pole mileage as being 11,205½, the wire mileage 13,645, and cables 354¼, with 1,248 offices. The messages sent during the year aggregated 636,471, as compared with 584,346 during the preceding year, or an increase of 52,125 messages.

The expenditure on construction, repairs and maintenance was $1,083,242.05, as against $885,730.19 in the previous year, an increase of $197,511.86.

The revenue shows an increase of $52,721.48 over 1919-20.

During the year, 147½ miles of new line was constructed, as follows:—

	Miles
Alberta	3½
British Columbia	119
Yukon	25

The telephones, telegraphs and conjoint offices on the system are as follows:—

	1921	1920
Telephones	774	708
Telegraphs	366	365
Conjoint	108	106
	1,248	1,179

NATIONAL GALLERY

In addition to the report published in this volume, the Board of Trustees have issued a special report that contains a great deal of interesting information.

The National Gallery of Canada was founded in 1880, and has grown by means of annual grants made by Parliament for such purpose, and by gifts.

In 1907, an Advisory Arts Council was appointed to administer the grants; and in 1913, the National Gallery of Canada was incorporated by Act of Parliament 3-4, George V, chapter 33, which placed it under the management of a Board of Trustees, consisting at present of Sir Edmund Walker, chairman, Honourable Arthur Boyer and Dr. F. J. Shepherd.

Under this authority, the trustees developed a policy of loan exhibitions of works of art based on the theory that these exhibitions would have an important influence in bringing about the establishment of schools of art and design. It is impossible for all Canadians to visit Ottawa, but it is possible for the Gallery to be brought within reach of the great majority of the people by means of loan exhibitions. Through these exhibitions, almost every city and town of importance from Halifax and St. John in the east, to Victoria and Vancouver in the west, has had the opportunity of viewing artistic work of good quality, and the result is making itself apparent in the formation of many art associations and schools throughout Canada, among the most recent of which is the British Columbia Art League, of Vancouver, B.C., which was incorporated under the Societies Act of that province in December of 1920, and now has its own gallery, and the Provincial Arts and Industrial Institute in Victoria, B.C.

The work of the National Gallery has borne much fruit also in Manitoba and Saskatchewan, and considerable interest is being manifested in Alberta.

At the present time, the National Gallery is conducting exhibitions of Canadian art at the following places: Collingwood, Fort William, Port Arthur, Hamilton, London, Sarnia and Welland, Ontario; Winnipeg, Manitoba; Moose Jaw, Saskatchewan; Medicine Hat, Alberta; New Westminster and Vancouver, in British Columbia.

Before the closing of the National Gallery in 1916, when the Victoria Memorial Museum building was first occupied by the Houses of Parliament, it had outgrown its accommodation, and when in 1920 the building was vacated by Parliament, a general scheme of rearrangement was necessary. The whole of the East Wing of the Victoria Memorial Museum building has now been assigned to the Gallery and provides a much more commodious home for its varied collection of works of art. The scheme of restoration has added considerably to the space, but even now there is little room for future expansion. The ground floor of the East Wing has been converted into a Sculptor's Court. The second, third and fourth floors have been rearranged to make some fifteen picture and print galleries. The East Wing has been separated from the rest of the building by fireproof partitions, so that the Gallery now controls its own heating and ventilation. The improvements and alterations were not completed by the end of the fiscal year, but it was possible to reopen during the month of September, 1921. The Gallery is now available to the public on all week days and holidays, except Christmas Day and Good Friday, from the hours of 10 a.m. to 5 p.m., and on Sunday afternoons, October to April, from 2 p.m. to 5 p.m. To the ordinary visitor as well as to the student and art connaisseur, the National Gallery will be found an enchanting place.

During the fiscal year, the following works were purchased:—

"Mary and Guido," by George Spencer Watson.
"Pastoral," by Maurice Greiffenhagen, A.R.A.
"Shacks," by Lawren Harris.
"Fire Swept Algoma," by Francis H. Johnston, A.R.C.A.
"Night, Georgian Bay," by A. Y. Jackson, R.C.A.

"The Edge of the Wood," by P. Nicholas Loveroff, A.R.C.A.
"Maison de Cavelier de la Salle," by Georges Delfosse.
"The Day Turns Ghost," by W. M. Barnes.
"Fishermen, Lake Ontario," by Manly MacDonald, A.R.C.A.
"The Green Balloon," by Emily Coonan.
"Lake Traffic," by Peter C. Sheppard.
"The Last Gleam," by Fred S. Haines, A.R.C.A.
"Abraham Dismissing Hagar," by Le Nain.
"The Solemn Land," by J. E. H. MacDonald, A.R.C.A.
"Summer Evening," by W. J. Wood.
"John," by F. H. Varley.
"Dufferin Terrace," by Mary E. Wrinch,
oil paintings.
One water colour, "A Water Baby," by Walter J. Phillips.
One piece of sculpture, "Son Meilleur Jouet," by Katherine E. Wallis,

and one hundred and fifteen prints, etchings, lithographs and drawings.

The possessions of the Gallery have this year been greatly enriched by the receipt from the Canadian War Memorials Committee of London, England, of the collection of Canadian War Memorial paintings. A few typical canvases have been used to decorate the walls of the Senate Chamber in the new Parliament Buildings. Canada's artistic record of the war is unsurpassed, and while, unfortunately, most of these paintings must be stored for the present, steps have been taken to repair and renovate them in anticipation of the time when it will be possible to suitably place them on exhibit in a War Memorials building.

Appended to this report will be found detailed statements from the different branches, giving full particulars of the various works carried out by the Department during the year.

I have the honour to be, sir,
Your obedient servant,

J. B. HUNTER,
Deputy Minister.

PUBLIC BUILDINGS

By R. C. WRIGHT, Chief Architect

Nova Scotia

ANNAPOLIS

Public Building.—A contract was awarded September 18, 1920, to Messrs. Denton & Condon for the erection of a two-story structure with attic and stone basement being an exact replica of the original building. The post office, customs and inland revenue occupy the building.

It is constructed of brick on stone foundation with stone trimmings, sloping roof covered with asbestos shingles, copper cornice, apron, gutters, ridge rolls and conductors. The deck roof is of felt, tar and gravel. The ground floor is utilized for Customs examining warehouse, Post Office public lobby, and office working space and furnished with vault and toilet accommodation. The first floor contains Customs Collectors and Inland Revenue offices, vaults and lavatory. The attic is assigned to the janitor. A hot-water heating system of twin connected boilers with ample radiation is installed. Electric light wiring in conduit and fixtures have been supplied.

HALIFAX

Immigration Building—Pier No. 2.—The upper floor of this building which had been used as a hospital and discharge depot by the Militia Department was remodelled to suit the requirements and handed back to the Immigration Department.

The work consisted of alterations to existing partitions, erection of new partions for examination and detention rooms, booking hall, offices, matron's quarters, guard-room, new toilets, etc.

The electric wiring was placed in conduits and the heating system altered or overhauled, and renewed where necessary.

Alterations were made to the hospital at east end of building to accommodate both male and female patients.

LAWLORS ISLAND

Quarantine station.—The contract for pump house and water supply was completed during the fiscal year.

YARMOUTH

Public Building.—A contract was awarded September 30, 1920, to Messrs. Russell & McAulay for alterations and additions to the public building.

The alterations consist of the removal of the rear wall, on the ground floor, the main staircase to first floor, walls surrounding the side entrance hall and the offices and hallway in rear of main hall, to enlarge the public lobby and the working space of the Post Office. A brick annex was added and a number of structural changes made in the original building.

Walls were built of brick on concrete foundations. New basement walls were damp proofed and cut-stone used similar to the present work. Steel beams and columns carry the work above the ground floor. New doorways formed, openings built up,

partitions removed, steel ash hoist including all its accessories provided and installed. Floors of vestibule, toilet rooms and mail alcove floored with red quarry tile. The whole of the first floor and all new flooring covered with maple. New staircase constructed. Various repairs and improvements to ventilation of toilets. The roof covered with felt, tar and gravel and the present slated roof made good. Hot water system installed and provision made for additional new radiation, electric light wiring in conduit, and fixtures, complete.

Prince Edward Island

Repairs, alterations and improvements were made to the public buildings at Charlottetown, Georgetown, Montague, Souris, Summerside and Tignish.

New Brunswick

ST. JOHN WEST

Immigration Building.—The ground floor was divided by new partitions after some old ones had been removed and large dining room, detention room, disinfectant room, guard-room, Immigration offices, toilet rooms, etc., were constructed.

Large new heating boiler was installed and sundry improvements made to the system to improve heating of this building and the adjacent No. 4 shed.

In the main building and No. 4 shed the toilets, urinals, sinks, baths and plumbing were overhauled, improved and repaired; doors and windows secured with iron guard bars, electric lighting system was rearranged, and general repairs were made to woodwork, interior porch and steps.

PARTRIDGE ISLAND

Quarantine Station.—Extensive repairs made to restore buildings and equipment to original condition.

Wire fencing was supplied and a fence built around old battery, contract was made for the fencing of the quarantine grounds and the cemetery.

Two tanks and heater were installed and pipes overhauled and radiator installed in kitchen.

Repairs made to plumbing, bathtubs, washbasins and closets, laundry tub, etc.

New heating boiler was installed in hospital with additional radiation.

Painting and kalsomining of interior and exterior.

Third Class Detention Building.—A contract was awarded on January 28 to J. E. Kane, for the erection of an addition to the north side of existing building to accommodate two new common rooms, two large toilet rooms and eight bathrooms. The new building is 34 by 38 feet, two stories high with pitched roof and on concrete foundation without basement. The outside walls are of frame, covered with clapboards and the floors of wooden construction.

In the old building, several changes were also made.

Quebec

GRANBY

Alterations and additions to Public Building.—The alterations consist of the removal of the walls enveloping the staircase hall, side entrance and steps and the staircase on the ground floor and for basement, the toilet room and partitions of an office adjoining stairway, but the mail entrance lobby has been retained.

The new work gives an extension of the working part of post office into the examining warehouse wing as far as the new staircase hallway. By the introduction of steel beams and piers the work above is carried.

The walls of the wing have been extended one story higher to provide two offices, and a hallway connects with the main part of the building on the first floor.

The walls are of brick finished with galvanized iron coping; window sills, heads and lintels of cut stone. Roof covered with tar, felt and gravel.

The materials were purchased and work executed by day labour.

GROSSE ISLE

Quarantine Station.—During the fiscal year ended March 31, 1921, the work at Grosse Isle consisted in general repairs, the material supplied and work done by day labour, no new constructions having been made with the exception of the contract for the boiler house, referred to in my report for last year, which has been completed. and the building fitted up.

MONTREAL

Central Post Office.—A contract was awarded on July 13, 1920, to Messrs. Peter Lyall and Son Construction Company, Limited, for alterations and additions to the Central post office. The work consisted of a four-story fireproof addition 29 by 29 feet built over and spanning Fortification Lane. The walls are composed of terra-cotta and brick and the floors of reinforced concrete supported on steel beams. A new iron balcony connects this addition with building in rear.

The original window openings are now changed into doorways uniting the building adjoining with this new part.

General maintenance repairs were made to plumbing, heating, elevators and electric lighting, bells, painting and glazing, and a terrazzo floor was laid in money order branch.

QUEBEC

General Post Office.—New accommodation was provided for the Customs postal parcels branch. Alterations made in the electrical installation and outlets located in relation to the position of fittings. The hardwood floor patched up where needed and walls and ceilings properly plastered, washed and tinted, woodwork varnished, skirting painted, radiators bronzed, and other repairs made.

Marine Store Building, King's Wharf.—General restoration and fitting up interior of this building, including an electric elevator.

ONTARIO

ALEXANDRIA

Public Building.—The destruction of the post office by fire on March 2, 1921, originated in the basement of a hardware store adjoining.

The building is 33 feet 6 inches by 49 feet, and consisted of a two-story brick structure on a stone foundation.

The ground floor contained the post office and examining warehouse; the first floor and attic the living quarters for the caretaker. The basement was used for the heating apparatus, fuel and storage space. It has been entirely gutted and only the outer walls remain standing.

The old heating and plumbing material or junk rescued from the ruins being of no further use by department was sold by tender and removed.

HAMILTON

Postal Station "B".—The contract referred to in last year's report has been completed. The building is situated at the corner of Barton street and Stirton avenue and has a frontage of 41 feet and a depth of 79 feet, consisting of two stories and basement and has a flat roof.

Interior post office boxes and fittings have been installed.

KINGSTON

Royal Military College.—The contract for the construction of one wing and part of central tower of educational block, R.M.C., fully described in the last year's report is now completed.

In addition to the above, several items were executed to complete the building.

OSHAWA.

Public Building.—The one-story structure referred to in last year's report has been completed.

Concrete roadways were laid on the east side of post office and continued around to the north side between post office and new examining warehouse, and alterations and improvements were made to the building.

OTTAWA.

Victoria Memorial Museum.—After the fire that destroyed the Parliament Buildings, the Victoria Memorial Museum was used temporarily to house the House of Commons, Senate and the offices for the Members and Senators.

Temporary partitions had been erected to subdivide the large floor areas into offices.

During the occupation of the building, the National Gallery and the Geological Survey were located in other premises.

On moving back to this building, the changes that were made provides the Art Gallery with a separate entrance at the east end of the building, separate quarters closed off from the remainder of the building by fire-proof partitions and doors.

The elevators were overhauled, cleaned thoroughly and put in first-class order. All toilet rooms were kalsomined.

One thousand feet of felt and pitch roofing repaired, copper flashings removed and replaced.

A very considerable amount of work was done in connection with refitting for National Art Gallery, and Geological Branch of Mines Department. It comprised renovations, the installations of a number of sinks, a rearrangement of the electric lighting and call-bells system, the placing of new blinds, the erection of partitions, the covering of walls with burlap in the Art Gallery, cleaning, scraping and treating of floors.

Privy Council Chamber—East Block.—Installation of a new freight elevator, including steel works, grills, iron and wire screens and collapsible gates.

Arranging of direct circuit service together with alterations to heating pipes, partitions, etc.

In the Privy Council chamber, three windows were entirely renewed, new flooring was laid and repairs made to wood-work. The fireplace rearranged, the walls and ceiling decorated and curtains provided for all windows, the heating arrangements were improved by the installation of large radiators, the corridor leading to the chamber was redecorated and doors re-covered with cloth. Repairs made to heating boilers, additional boilers provided and brick work to them executed.

An iron grill was placed at entrance to the heating tunnel and two in corridors on second and third floors.

City Post Office.—Elevator car taken from old Parliament Buildings rebuilt and erected as a freight elevator with structural steel tower, ornamental iron and kalamain work complete.

Government Printing Bureau.—Alterations and additions.—A contract was awarded on August 17, 1920, to the Geo. C. Graves Construction Company for alterations and

additions over boiler room situated at rear of the Printing Bureau. The work consists of a four-story structure fireproofed throughout, self-supporting external walls with stone trimmings and galvanized iron cornices, similar brick and stone work, brick arches and stone sills to the original building. Steel framed, all the structural steel beams, columns and flanges of beams are wrapped with expanded metal encased with concrete. Floors and roof slabs built of concrete reinforced with steel. Surface of floors finished with mastic asphalt. Outside brick walls lined with hollow brick. All partitions of terra-cotta and stone cornice removed and reused on rear wall. Suspended ceiling furred with metal lath. Plastering on all lathed surfaces and portions disturbed by alterations. All new exterior and interior woodwork, exposed galvanized iron, kalamains, ironwork, brickwork, steel partitions, walls and ceilings in toilet room painted, glazing done to windows, doors, glass panels, etc.

Main cornice, coping, belt courses, etc., of galvanized iron.

Spiral staircase and landings of cast-iron interlocking around a central post. Conveyor chutes of steel sheathed with wood, ventilation provided to toilet rooms, fire doors installed, pent house erected; the addition was roofed with felt, tar and gravel. Elevator removed to new position, new car, additional guides, etc., enclosure covered with kalamain iron including doors, steel sash and door openings, repairs and changes to the drainage, plumbing, heating, electric light installation, electric elevator, etc. Removals and alterations to partitions, toilet rooms, cornice, roof to suit the requirements.

Supply and installation of electric passenger elevator car and machinery, elevator enclosures and steel tower and collapsible steel gate. This elevator erected in the main hall or entrance to the Printing Bureau occupies the space between the main stairs and the mezzanine landings.

War Trophies Building.—A contract was awarded on June 18, 1920, to Messrs. Doran & Devlin for this building, situated on Sussex street to the south of the Archives building, which is a one-story structure 125 feet long by 50 feet wide. The walls which are made of 12 by 12-inch terra-cotta hollow blocks, plastered and rough coated outside, rest on concrete foundations without basement. The ground floor, consisting of a 5-inch concrete slab with a 1-inch finish, rests on earth and stone fill to the required grade. It is lighted by patent hand steel frame windows, pivoted sash. The steel columns supporting the steel beams strutted and sway-braced support the roof, and the roof proper is made of joists sheated diagonally with tarred felt and gravel covered with galvanized iron cornice and flashings. The ceiling has been furred and plastered but the walls inside have not been plastered.

On the south side are double doors with concrete approaches for delivery of the trophies. The visitors' entrance is on the north side.

The electric lighting has been provided; there is no plumbing but the building is heated by stoves.

Restoration of Ore Dressing Laboratory.—A contract was awarded on October 12, 1920, to Messrs. Taylor and Lackey, contractors, for the restoration of a one-story frame building on concrete foundation, which was partly destroyed by fire in the winter of 1920.

An addition at the west end for an assay laboratory, and a boiler-room on the south side of the building and about its centre were added to the existing building.

The outside walls are diagonally sheeted, papered and clap-boarded, painted to match the other work, the interior being finished with tongue and grooved V-joint, and stained.

The centre part reconstructed is mainly occupied by the carpenter's shop and men's toilet. Partitions separate the engineer's toilet room and shower-bath from the general one.

The assay laboratory is similarly constructed as is also the boiler room which floor is three steps below the floor of the rest of the building. The floors throughout are of concrete with a cement finish.

The building is steam heated from a locomotive firebox boiler of thrashing-engine type situated in the roaster building.

New plumbing and repairs to the damaged one was done by the contractors, as also the installation of the hot water tank and heater which are situated in the boiler room.

The electric wiring is protected by conduit.

A new 24-gauge corrugated iron roof was laid over the roaster building.

Fuel Testing Laboratory, Mines Department.—During the year this building was damaged by fire and repairs to it were executed.

Two water-closets and one urinal were installed and the heating apparatus overhauled.

Experimental Farm.—The west half of the old dairy building was moved to a site adjacent to the flax building and set on a concrete foundation, and alterations and repairs made to convert same into a dwelling for horsemen.

Alterations have been made to the east half of the old dairy building which is situated close to the old dairy building site and rests on a new concrete foundation; is divided into two offices, a storeroom and toilet room.

In the greenhouse, the second and third stories over the potting room were fitted up for a residence, and three rooms on the second floor of the horticultural building were fitted up for offices; hot water heating system installed for the purpose of heating first and second stories.

The flax building was destroyed by fire on January 18, 1921.

Residence for the Poultry Husbandman.—A contract was entered into on January 26, 1921, for alterations to a building at the eastern entrance to the farm which is of stone, and the walls, chimneys and pediment on front elevation have been raised several feet. A new shingle roof has been provided and the whole of the interior remodelled.

To this building an extension has been added, measuring 17 feet deep by 28 feet wide; the construction is batton frame set on concrete wall; the exterior is in rough-cast; roof is shingled, new floors laid throughout, and a new fireplace and chimney was built.

The basement of this building is provided with furnace room and coal bunker.

The first floor of the building is divided into an office, kitchen, dining-room, living-room, hall and vestibule.

Second floor consists of four bed-rooms, bath-room and sleeping porch.

Heated by hot water and lighted by electricity.

Poultry Office Building.—A contract was entered into on August 19, 1920, for the erection of an office building, which is situated on a site facing Maple avenue. This is a two-story building 45 by 45 feet with an attic. The construction is solid brick, set on concrete foundation walls. The roof is covered with asbestos shingles.

The basement floor consists of an incubator room, egg room, furnace room, a coal bunker and toilet room. The first floor is divided into five offices, one ladies' toilet room and a cloak room. The second floor is in one large room which serves as a stationery and filing room.

Heated by hot water and lighted by electricity.

Old Machinery Hall, Lansdowne Park.—A contract was awarded September 18, 1920, to Messrs. Cooper, MacDonald & Beattie to prepare the old frame building for temporary occupation by the R.C.M.P.

The accommodation provided, consisted of four barrack rooms, recreation room, mess, sergeants' quarters and mess, kitchen, canteen, toilets and showers.

The work comprised the erection of new stud partitions and plumbing fixtures. The lavatory fixtures and baths were supplied by the department to be installed by the contractors. The electric lighting system was increased to suit requirements. An addition to the concrete sewage collecting tank was made and new wood frame built over whole tank and present pump raised to grade level.

PEMBROKE

Public Building.—A contract was awarded on October 4, 1920, to the Estate of Walter Beatty for the construction of a new four-dial clock tower, 10 feet square by 30 feet in height, surmounted by an iron weather vane finial.

The new clock machinery was supplied by John Smith & Son, England. The original bell was used again. Some necessary alterations were made in caretaker's quarters; new pine floors were laid, and painting and decorating done in two front rooms and hall.

ST. THOMAS

Public Building.—A contract was awarded November 3, 1920, for alterations to plumbing and toilet room throughout this building and the work has been completed.

A gas-heater and boiler for hot water and heating purposes were installed.

Several transoms were altered so as to provide better ventilation; windows reglazed where required, and other minor repairs were made.

TORONTO

Postal Station "A".—Work on this building is still in progress at the end of the fiscal year but it is nearing completion.

WELLAND

Public Building.—An addition was made to rear of building and new doorway put in as accommodation for rural mail.

Curbs at edge of roadway in rear of building were put in and yard was graded and seeded down to form lawn.

A new floor was laid in the lobby, electric wiring changed due to alterations to exterior fittings, and other repairs were made.

MANITOBA

BRANDON

Public Building.—The post office was rewired and equipped with new electric lighting wiring in conduit and fixtures.

The addition and alterations to the public building referred to in last year's report have been completed.

DAUPHIN

Public Building.—A contract was entered into for alterations to heating plant, consisting of taking down existing hot-water heating boiler; taking down and re-erecting existing flow and return mains in basement, altering and providing new branches and returns to existing system; providing and installing complete two new hot-water boilers and new radiators, boiler pit, smoke breeching, etc., complete.

PORTAGE LA PRAIRIE

Public Building.—The work referred to in last year's report has been completed.

New set of doors between post office space and the west entrance lobby provided.

Supply and installation of post office fittings. Alterations made to provide a new room on second floor for Customs, which was renovated and painted.

The work of taking down and re-erecting old mains and branches in basement, forming boiler-pit, new drains, etc., also linking up to heating flow and return mains of new annex, was carried out by the department simultaneously but under separate contract.

Providing and installing two new hot-water heating boilers and additional radiation.

WINNIPEG

Postal Station "A."—A contract was awarded the Vulcan Iron Works for supplying and erecting a new marquise on the east end of the building, 12 feet above street level. The structure is 56 feet long with 15-foot projection, is of steel construction with corrugated iron roof, and is hung to the wall by seven 1½-inch tie rods, bolted to plate washers on inside of wall. The existing fire-escape was cut at level of roof of marquise and lower portion removed.

Tuxedo Cavalry Barracks.—A contract was awarded Mr. R. M. Wyatt for the conversion of existing pavilions A, B, C, D, E and F into cavalry barracks. These buildings are of frame covered outside with stucco.

This occasioned considerable readjustment in old buildings of new partitions and fixtures.

The accommodation now provided in pavilions A and B, barrack accommodation for 300 men; C and D pavilions, regimental headquarter offices and quartermaster's offices; E and F pavilions provide accommodation for 165 men, also canteens for H.C., O.S. and men's offices in annex.

SASKATCHEWAN

INDIAN HEAD

Forestry Office.—The construction of this building described in last year's report was completed during the fiscal year.

A new lumber garage was erected and new storm porch erected at the front entrance and a storm door at the back entrance.

ALBERTA

RED DEER

Court House Building.—A contract was awarded on September 20, 1920, to Wm. H. Cawston for alterations and additions and repairs to court house building for conversion into post office on ground floor and Customs offices on second floor.

Cement sidewalk and curbs was laid from front of building to street; new brick piers on concrete footings in basement to receive the steel beams and columns that carry the upper floors.

Porches on east side and platform at rear were taken down and removed; vault, partitions, dais, steps, doors, etc., on ground and first floors removed, new partitions skirting the whole modified to suit requirements.

The front porch was built of brick on stone foundation; new walls waterproofed; new concrete piers were built to receive new wood porch at rear; several openings built up; portion of exterior refaced to match the existing work; floor to vestibule raised and ground floor covered with maple flooring.

Front staircase was removed and new one constructed, dum waiter, including guides and machinery, furnished and installed. Roof of new porches covered with galvanized iron. Painting done to all exterior and interior woodwork, ironwork, galvanized iron, etc.; walls and ceilings kalsomined, also glazing to doors and windows.

British Columbia

NAAS RIVER

Public Building.—A three-roomed frame building was constructed for the fishery officer, containing office, kitchen and bedroom, dimensions 22 feet by 18 feet with a six-foot verandah.

VANCOUVER

R.C.M.P. Barracks, Fairmont.—A contract was entered into by Messrs. E. Chrystal & Co., Ltd., Vancouver, on August 17, 1920, for the conversion of existing buildings at Fairmont barracks into a garage and stores building for the R.C.M.P.

Alterations were made to the existing building situated south of the main building, in the basement the earth was excavated for a new garage for heavy cars and carpenters and farriers shops. A retaining wall around three sides of the garage was built and a new concrete floor was constructed. Windows, doors and a board wall were put in and fixed and on the first floor, all old partitions were removed and new partitions put in to form two master's stores, office, tailor and saddler shop, hall, guard-room, toilet and garage for light cars. Electric lighting and water systems were put in throughout the building.

Two electric standard poles and a three-wire service of 300 feet from B.C.E. pole to stables were installed.

Another contract was entered into with Jos. Wm. Bye for the restoration of a portion of R.C.M.P. barracks at Fairmont.

A fire in the main building made the following work necessary: The central hall and the whole of the attic south of the central line were rebuilt; central barracks room and all of the roof south of central line were replaced; partitions and walls on second and attic floors were replaced and the lighting and water systems completely restored and all new replacements were re-decorated and the roof stained.

Ceiling of boiler room was covered with asbestos as a fire preventative and two double doors at foot of basement steps and plaster partition wall in east side boiler room were removed.

Still another contract was entered into November 30, 1920, with Robert Moncrieff for the construction of horse stables.

The site is bounded on the south by 37th avenue, on the east by Heather street and the north by 33rd avenue. The buildings consist of four buildings, each 115 feet long and 32 feet 7 inches wide, with a centre communication passage linking them together. The buildings are built on concrete foundations of frame construction; the floors are concreted and all necessary drainage provided.

The exterior walls are covered with rough siding and stained to match the other buildings; the interior walls are sheeted and electric lighting and water systems were installed.

The buildings provide accommodation for one hundred and forty horses.

MILITARY HOSPITALS

The following is a brief summary of the work classified according to provinces.

Prince Edward Island

NORTH WILTSHIRE

Dalton Sanatorium.—A small addition was made to the administration building for the accommodation of the X-rays apparatus and dressing-room in the basement and a nurses' sitting-room having a bay window and brick fireplace with a utility room adjoining on the ground floor.

The frame structure rests on a concrete foundation. Outside finish of clapboard; lath and plaster inside, wood floors.

The erection of a pump-house over the well on the Griffin farm.

Installation of a tank with copper coil in the basement of new annex to the administration building for distribution of heating. Pump in boiler room for boosting hot water.

Nova Scotia

HALIFAX

Bellevue Military Hospital.—Ward building under contract was completed, together with sundry alterations for different works including fencing, gates, etc., also drain connection, installation of radiators and heating and stand pipe for fire hose.

Camp Hill Military Hospital.—All buildings and works referred to in the last year's report have been fully completed.

New Brunswick

EAST ST. JOHN

County Hospital.—On December 22, 1920, a contract was awarded the Stephens Construction Company for the construction of a garage, workshop, vegetable and coal storage. This building was erected as an addition to the present power-house and consists of coal storage 36 by 39 feet inside by 12 feet in height. Walls, floor and roof are of concrete construction with four circular chutes in roof for receiving fuel. Adjoining the coal storage building is a garage and workshop, one story and basement in size above grade, 38 by 23 feet, with cellar used for vegetable storage.

With the exception of grading and minor finishings, this work is now practically completed.

The area between wings of existing building was closed in and converted into storage and room for ice-making machinery. The contract for the refrigerating plant was awarded to Linde Canadian Refrigerating Company.

Ontario

LONDON

Westminster Psychopathic Hospital.—A bulk contract was awarded to W. H. Harvey, dated October 14, 1920, for the construction of assistant medical officers', nurses' and married orderlies' quarters and file conduit from ward "H" to nurses' home and for execution of additional work.

Another contract was entered into on October 14, 1920, with W. H. Harvey for the erection of a nurses' home.

This is a solid brick building on concrete foundation, with a section of basement fitted for laundry work and storage. This building has accommodation for forty-five nurses, and the accommodation provided consists of living-room with fireplace and mantel, reading-room, kitchen, reception room, matron's office, dietitians' room, two bedrooms and toilet in matron's quarters. There are nine bedrooms for nurses and one large toilet with two bathrooms, on first floor, and nineteen bedrooms with two toilets and four bathrooms on second floor.

The building is 120 by 38 feet, projecting on planks 11 by 28 feet wide, two stories in height, with attic and basement. East end of basement is of concrete; concrete piers support floor on unexcavated area; walls above ground are of solid brick construction with wood floors and stud partitions and plaster; a pitched cedar shingle roof covers the structure. A central entrance on south side with porch, and two side entrances with interior staircases east and west provide access. Stairs, floors, trim, etc., are of kiln dried pine. The building is wired for electric lighting. A steam-heating system is installed with radiators on first and second floors, system being supplied from central heating plant. A 250-gallon tank in basement provides hot water for domestic fittings. The attic floor is not partitioned off and is used for storage.

Five pair of double houses for married orderlies measuring 27 by 40 feet, two stories, and full size basement, have been constructed. Each dwelling contains hall with vestibule, living-room, kitchen and dining alcove, and three bedrooms with clothes closets and bathroom.

The foundation, walls and floors of basement are of concrete, walls of first brick veneer, and second floor timber frame and rough-cast with wooden floor construction, all covered by a pitched roof with pavilion ends; rafters covered with sheathing and cedar shingles. Heated by individual hot-air furnace in basement, and hot-water tank to supply fixtures. The houses were wired for electric lighting.

Four semi-detached double houses for the assistant medical officers were constructed. Each dwelling consists of vestibule, halls and stairs, living-room with fireplace and mantel, dining-room and kitchen, and the second floor has three bedrooms and bathroom.

The buildings measure 30 by 42 feet, two stories, and full size basement.

The foundation walls and floors are of concrete. Walls of first floor frame and brick veneer, second floor timber frame and rough-cast exterior. The floors are of wood construction, all covered by a pitched roof with pavilion ends, rafters being covered with sheathing and cedar shingles.

A steam-heating system is provided in each dwelling, supplied from central heating plant. A 40-gallon hot-water tank is fitted up in each basement connected, supplies hot water to the fixtures to domestic plumbing. The houses are wired for electric lighting.

A contract dated April 17, 1920, was awarded to W. H. Harvey for the construction of valve house, foundation piers, installation of piping for water supply and installation of engine to run draught fan.

A contract was awarded the Canadian Des Moines Steel Company, Limited, dated August 16, 1920, for the supply and installation of steel water-tower and gravity tank.

A contract was awarded to W. H. Harvey dated February 7, 1920, for grading and road work.

A contract awarded to F. R. Dark on February 9, 1921, for a series of electric lighting of grounds, and addition to transmission lines, has been installed, covering all points of ground necessary, also a service carried to supply all diet kitchens in main building.

TORONTO

Orthopædic Hospital.—All works enumerated in last year's report, including the officers' ward building, have been fully completed.

SASKATCHEWAN

MOOSE JAW

Ross Park School.—The above building was being used as a military hospital and was remodelled again into school premises and the building was handed over to the school trustees in a very satisfactory shape, and accepted by them.

A contract was awarded to H. E. Forbes on June 8, 1920, for the several works required in the process of restoration of school to its original condition as required by the terms of the lease between the Military Hospital Commission and the School Board.

On January 19, 1921, a further expenditure was incurred in dismantling, crating and shipping plumbing and heating fixtures, etc., to Ottawa.

HARBOUR WORKS

By E. D. LAFLEUR, Chief Engineer

NOVA SCOTIA

BARRINGTON PASSAGE

Barrington Passage, Shelbourne county, is 45 miles southeast of Yarmouth.

During the past fiscal year, $4,106.28 was expended towards the construction of a block and span cribwork wharf 198 feet long, 20 feet wide and 17½ feet high. The rock bank approach was repaired and three cribs put in place, these cribs were fully ballasted at the top, besides this, all the logs and plank necessary for the construction for another six cribs were procured and paid for.

This work was commenced October 13, and completed December 31, 1920.

BASS RIVER

Bass River, Colchester county, is situated at the north side of Cobequid bay, the eastern arm of the Bay of Fundy. It is half way between Truro and Guysboro, or about 28 miles from either place.

During the fiscal year, a contract was let for the construction of a new wharf to replace the old structure now beyond repair, the amount of the contract being $17,930. It was too late to begin work and secure material this season, and an extension of time was granted on this contract to August, 1921.

BOISDALE

Boisdale, Cape Breton county, is a settlement and a station on the Canadian Northern Railway situated on the southeastern side of St. Andrew's Channel, an arm of the Bras D'Or Lakes, about 15 miles east of Grand Narrows.

On April 20, 1911, the wharf built in 1908, with the exception of the shore abutment, was carried away by an ice-shove down to low water.

As it was found impossible to build on the wrecked foundation of the old work, on November 10, 1919, a contract was entered into in the sum of $2,350 for the construction of a new wharf, 50 feet to the eastward of the remains of the old one. The new wharf is a native round timber block and span structure, 110 feet in length, 20 feet wide, extending to 6 feet at low water, and consists of a shore abutment, 10 feet long and of three blocks, 17 feet long, with intervening spans 18 feet long. The work was commenced April 26 and was satisfactorily completed June 22, 1920.

CHIMNEY CORNER

Chimney Corner, Inverness county, is on the western coast of Cape Breton island, about five miles south of Margaree harbour.

In order to provide shelter and a landing for the fishermen of the district and to facilitate the shipment of coal from a small mine in the vicinity, a breakwater 171 feet in length, 20 feet wide on top and extending to 12 feet at low water, was constructed here by the department during 1918-19.

For the purpose of enabling a larger class of vessels to utilize the structure, it was decided to deepen an area, 200 feet in length and 80 feet in width, mostly on the sheltered side of the work, to 16 feet at L.W.S. Departmental dredge *No. 13*, which had been working at Margaree harbour, was detailed to do this work, which was estimated at 5,400 cubic yards scow measure.

Operations were commenced August 21, 1920, and continued until the 27th following, when solid rock was encountered the work was suspended, and during that period some 1,989 cubic yards scow measure of materials consisting of sand, mud and small rocks were removed, and 500 cubic yards of material were overcast.

DEVIL'S ISLAND

Devil's island is a small, low island about 2,000 feet in length by 1,000 in width, with its highest point about 15 feet above H.W.O.S.T., situated about eight miles to the southeast of the city of Halifax.

On July 25, 1919, a contract was let for repairs to this breakwater, and for the erection of a crib protection around the outer end in order to safeguard the concrete and prevent disintegration to any extent.

Work was commenced in August and crib was placed around the outer end of this work, dimensions being along the outer side, 40 by 15 feet, and along the shore side 40 by 8 feet, being 18 by 20 feet across the end, making a face length of 42 feet and an average height of 15 feet.

This crib was floated into position about the 1st of September, partially ballasted. On the night of September 3, a severe sea completely destroyed it, leaving only the ballast floor and a portion of the ballast intact. After a conference with the contractors, it was decided that it would not be advisable to carry on the work at this late season of the year. Therefore work was abandoned for this season.

On the 26th of June, 1920, an Order in Council was issued, authorizing the return of the security deposited by Messrs. Denton and Condon, and an adjustment of their claim for losses during the storm, the sum of $4,813.56 being paid in full and final settlement of all work done in connection with their contract. New plans and specifications were called for and the dimensions of the new work enlarged.

The 15-foot crib on the sea side was made 20 feet, that is a 20-foot crib in width, and the one on the inside enlarged from 8 feet to 15 feet. Some other minor changes were made in the plans and specifications, but owing to the lateness of the season, it was deemed advisable not to call for tenders until some time during the coming winter.

During the fiscal year 1920-21, the sum of $594.50 was expended in repairs to the deck of the cribwork portion of new breakwater. These repairs called for a length of 100 feet, filling the work with ballast where the same had been washed out, covering with new stringers and flooring, also new sheathing for a distance of 10 feet. This portion of breakwater was put in first-class condition.

DIGBY

Dredging

The object of the dredging was to facilitate the berthing and turning of the daily steamer plying to St. John.

Area dredged is about 786,000 square feet. Depth of water obtained, 19 feet at L.W.O.S.T. The width of channel dredged is 400 feet by about 1,100 feet long, and the turning basin about 450 to 600 feet.

The material removed consisted of mud and sand, amounting to 77,149 cubic yards, barge measurement.

The dredge *Fielding No. 1* worked here from March 13 to June 5, 1920.

In addition to the above, the channel to the Racquet, which is a bay at the northern end of the town of Digby, was dredged to about L.W.O.S.T., and to a width of 100 feet, for a distance of about 700 feet. Approximately 17,636 cubic yards, barge measurement, was removed by dredge *No. 1*, between May 1 and June 5. The material dredged consisted of mud and sand.

EAST RIVER

Dredging

The object of this dredging was to remove a triangular piece of ground having an area of 28,100 square feet to a depth of 15 feet at low water ordinary spring tides and lying at the south side of Cantley Point on the west side of the new channel and at the junction of the old and new channels; the greatest length of this triangular area is 450 feet, and greatest width 110 feet. Material removed was 6,820 cubic yards of mud, clay and a few boulders, scow measure, and the quantity removed during the seasons of 1919 and 1920, to complete the work was 12,457 cubic yards in situ.

Work was done by departmental dredge *No. 4* between May 18 and June 3, 1920, both dates inclusive.

Probably no further dredging will be required for many years to come.

Chambers Point

The object of this dredging was to clean up a portion of the channel 600 feet long by 38 feet wide between Smelt brook and Chambers point, on the East river, to a depth of 12 feet at low water ordinary spring tides.

Material removed by departmental dredge *No. 4* between June 4 and 14 consisted of 4,515 cubic yards, scow measure, of sand and gravel, and the work was completed as projected.

Trenton

Dredging was done in front of the Trenton wharf to remove a quantity of silt that had gathered, and the area was cleaned up to a depth of 10 feet at low water ordinary spring tides on a length of 120 by 40 feet in width; 520 cubic yards of sand ashes and mud were removed on June 15, by departmental dredge *No. 4*.

EATONVILLE

Eatonville is situated about 12 miles west of the town of Advocate. There are two breakwaters at this place. The first one was constructed a great many years ago by the department, and has been from time to time extended. During the fiscal year 1908-09, the second breakwater was constructed on the opposite side of the cove, so as to further protect the entrance.

During the past fiscal year, $3,484.54 was expended and the whole of the old breakwater was practically reconstructed. The material had been purchased two years previously at a cost of $800. The work was commenced October 26, 1920, and completed January 8, 1921.

The old breakwater is solid log crib-work 205 feet in length, 20 feet in width and a height at the outside end of 19 feet with an average height of 15 feet.

FRENCH RIVER

French river, Pictou county, is a tidal stream emptying into the gulf of St. Lawrence 10 miles to the eastward of the entrance to Pictou harbour.

In 1920-21, the sum of $848.60 was expended in the construction of a new pile wharf on the west side of French river at the north side of the public road and bridge. The wharf is 26 feet long on the river side and 20 feet wide with an approach 25 feet long by 12 feet wide and a roadway approach 54 feet long.

Included in the above expenditure, the sum of $185.95 was spent on hand digging and cleaning up of the channel near the new wharf.

GLACE BAY

Dredging

The instructions received for dredging included the dredging of a channel inside the harbour, about 1,300 feet in length, 80 feet in width, and to a depth of 16 feet at low water, involving the removal of an estimated quantity of 32,942 cubic yards scow measure of material; and the dredging of an outside channel about 1,050 feet in length, 100 feet in width and to a depth of 17 feet at L.W.S., and involving the removal of some 20,757 cubic yards, scow measure, of material.

Departmental dredge *No. 4* commenced operations on July 23, 1920, and continued until October 5 following, when instructions were received to discontinue the work and for the dredge to proceed to Sydney harbour.

The work performed during the past season consisted in the improvement of the harbour proper and of about 90 feet of the outside channel. The total amount removed was 33,024 cubic yards scow measure of material.

The dredge worked within the lines and to the depths proposed when the work was undertaken, but the material on the southern side settled into the cut and shoaled it. The dredging extends out to the 10-foot contour and will be of great benefit to schooners of this draft which may enter and leave the harbour at any tide.

IRISH COVE

Irish Cove, Cape Breton county, is a farming settlement on the southeastern side of the Great Bras D'Or lake, near the mouth of East bay. The nearest railway station is at St. Peters, 30 miles distant.

In 1892, wharf was built here by the department, consisting of a block and span structure of native timber, 161 feet in length and 20 feet wide, with a 20-foot "L" at the outer end, and extending to 12 feet at low water. Owing to wear and tear and to natural decay of the timber in the superstructure and to the ravages of the teredo in the substructure, it was found impossible to repair it, and it was decided to build a new native timber pile wharf over the remains of the old one.

During 1919-20, the sum of $199.27 was expended in procuring some of the materials required and during 1920-21, the sum of $2,911.98 was expended in procuring the balance of the materials required for and in the construction of a new pile wharf to replace the old wharf 160 feet in length and 20 feet in width, and in grading the road connecting the wharf with the public road.

KELLY'S COVE

Kelly's Cove, Yarmouth county, about three miles south of the town of Yarmouth.

In 1920-21, the sum of $3,785.28 was expended in the construction of a reinforcing block on the western or seaward side of the western or main breakwater, to check further movement of the work under the pressure of heavy seas. The new block is 80 feet long, 12 feet wide and from 16 to 18 feet high, substantially built of stone-filled cribwork, provided with a break the same height as the existing work.

LIVERPOOL

Dredging

During the past fiscal year, dredge *No. 1* removed 36,050 cubic yards, scow measure, commencing work August 25 and stopping October 7, 1920; beginning about 60 feet southwest of the Southern Salvage Company property, thence running seaward a length of 1,300 feet, thence turning slightly and running an additional length 950 feet to opposite the black can buoy. The first 1,300 feet was dredged 150 feet in width, the next 350 varying in width from 150 to 20 feet and the remaining 600 feet is 20 feet wide: the depths varied from 13 to 20 feet.

From the bridge towards the mouth of the harbour, for a distance of 1,100 feet, the material consists of mud and sawdust; for a further distance of 1,034 feet the material consists of mud and sawdust mixed with fine, hard, white sand, whilst the last 1,085 feet of the channel has a bottom composed entirely of this hard sand, difficult to remove.

LIVINGSTONE'S COVE

Livingstone's cove, Antigonish county, is situated on the southern shore of Northumberland strait, about two miles southwest from Cape George.

During the fiscal year 1920-21, the sum of $2,749.06 was expended in constructing a stone-filled cribwork block on the outer end of the seaward face of the wharf, 60 feet in length, 24 feet width and 18 feet in height. The substructure is of creosoted timber up to the level of H.W.O.S.T. The seaward side and outer end is sheathed and fendered with hardwood. In addition to the new block about 35 feet by 25 feet of the outer end of the old work was rebuilt from 2 feet above H.W.O.S.T. level and about 50 cubic yards of ballast placed in the bays along the outer face of the old work. Work was in progress in June, July, August, September, October and November.

MCNAIRS COVE

Dredging

The object of this work was to dredge an area on the west side of the public wharf to a depth of 6 feet, 8 feet and 10 feet at low water ordinary spring tides.

The dimensions were as follows:—

6 foot area 150 feet long and 60 feet wide.
8 foot area 150 feet long and 75 feet wide.
10 foot area 150 feet long and 80 feet wide.

The whole project is not quite complete, as a part of the material to be excavated consisted partly of heavy stiff wharf timbers which the dredge could not remove, in consequence schooners drawing over 7 feet will have to remain 6 or 8 feet off while loading at this part of the wharf; there is also a small ledge of rock which slopes up to within 3 feet of the surface at low water, but as this is within the 6 foot area and near the shore, it does not interfere with navigation.

Quantity of material removed during the year by departmental dredge *No. 11* between August 16 and September 9, was 4,665 cubic yards, scow measure, of sand and a small quantity of ballast.

MARGAREE HARBOUR

Dredging

Margaree harbour, Inverness county, is situated on the coast of Cape Breton island, about 20 miles north of the town of Inverness.

The object of the dredging was for the purpose of improving the depth of water in the channel leading into the harbour, and to fishermen's beach and for making a boat dock on the northern side of Lawrence's wharf.

The main channel for a distance of 1,800 feet on the centre line and for a width of 120 feet was to be dredged to a depth of 12 feet at low water; the fishermen's dock was to be extended a distance of 300 feet and to a width of 60 feet by dredging to 8 feet at low water, and the dock on the northern side of Lawrence's wharf to be improved by overcasting, and the total amount of dredging authorized was 55,500 cubic yards.

The departmental dredge *No. 13* commenced operations June 9, 1920, and completed all the work specified in a satisfactory manner September 30 following.

A quantity of 66,895 cubic yards scow measure of material, consisting principally of sand, was removed including 1,400 cubic yards of overcasting near Lawrence's wharf, and from a survey made immediately after the completion of the work it was found that the amount removed in situ, not including the overcasting, was 56,979 cubic yards, made up as follows: In main channel to subgrade, 47,822 cubic yards in situ; in main channel below subgrade, 8,227 cubic yards in situ; fishermen's dock, 930 cubic yards in situ.

MIDDLE SOUTH

Dredging

Middle South is five miles southerly from Lunenburg by ferry.

During the fiscal year a quantity of 15,891½ cubic yards was removed, making a new channel beginning at a point about a quarter of a mile south from George Nauss' wharf, following along the shore and distant therefrom 100 feet more or less, through the mud bank. Previous to this dredging this area was practically dry at L.W.O.S.T. Owing to the fact that the natural channel followed along on the opposite shore, the people living on the southern side were only able to use their motor boats during high tide. Therefore, this channel, which is 4,300 feet long and 24 wide, with an average depth of 4·2 feet, was excavated for their convenience. The material was overcast.

Work was begun 16th June and finished on 16th October, work being performed by dredge *No. 15*.

MULGRAVE

Dredging

The object of this work was to provide a safe berthing for the car ferry *Scotia 2nd* and for the relief boat.

Dredging was done on a length of 250 feet by a width of 80 and to an average depth of 17 feet over the whole area by departmental dredge *No. 13* between October 26 to 29, both inclusive, when 1,157¼ cubic yards of ashes and mud were removed from over solid rock.

At one or two spots, the dredge encountered very hard material which it could not remove to the required depth, but this cannot be said to affect the state of the work which may be declared complete.

NEW CAMPBELLTON

New Campbellton, Victoria county, is situated at the head of Kelly's cove, on the northeastern side of the Great Bras D'Or channel, about one mile from its entrance into the Atlantic ocean.

The work proposed consisted in the dredging of an area 360 feet in length, 160 feet in width and to a depth of 20 feet at low water springs, in front of the wharf

Spring tides rise 3 feet.

Operations were commenced November 11, 1919, by departmental dredge *No. 2* and continued until November 29 following, when the work was suspended owing

to the lateness of the season, and during that period a quantity of material, consisting of clay and loose stones, aggregating 9,122 cubic yards scow measure, were removed.

On May 25, 1920, the P.W.D. dredge *No. 2* resumed operations and continued until June 1, when she completed all the work as far as it was possible for a dredge of its type to do so, as it could not dredge close to the wharf or at the inside end of berth alongside of wharf. During that period the dredge removed 4,310 cubic yards scow measure of material, consisting of mud, clay and stone.

Department dredge *No. 4* commenced operations on June 28, and continued until July 8, when the work was completed as far as it was possible, and during that period she removed 4,992 cubic yards scow measure of material.

OYSTER POND

Oyster pond, Guysborough county, is one of several large ponds in the northern shore of Chedabucto bay, which form the only boat harbours between Sand point, on the western side of the southern entrance to the strait of Canso, and Guysborough harbour, a distance of 15 miles.

During the fiscal year 1920-21, the sum of $1,439.54 was expended in purchasing materials for extension of pier 100 feet in length by 16 feet width by 13 feet high, and in completing the construction of a cribwork block 12 feet in length by 16 feet width by 11 feet high which forms part of this 100 foot extension.

PICTOU

Dredging

During the fiscal year, dredging was done alongside the Canadian Northern Railway East pier to a depth of 25 feet at low water ordinary spring tides, on a length of 350 feet and a width of 75 feet, the average depth of the cut was 4 feet.

Work was done by departmental dredge *No. 2* between June 8 and 14, 1920, when 3,859 cubic yards, scow measure, of soft clay and some ashes were removed, and work was completed according to intention, although dredge *No. 2*, being a ladder dredge, could not work closer to the dock than 15 feet, but it is expected that the soft material so left will find a natural slope and will not interfere with the docking of vessels.

Burnham and Morrels wharf

Dredging was done to provide a turning basin at the west side of Burnham and Morrells wharf to a depth of 10 feet at low water ordinary spring tides.

The quantity removed by departmental dredge *No. 4* on June 17, 1920, was 768 cubic yards, scow measure, of soft mud, and the project was completed on a length of 100 feet by a width of 80 feet and the average depth of cut was 2 feet.

SANFORD

Sanford, Yarmouth county, is situated on the coast of the mouth of the Bay of Fundy.

In 1920-21, the sum of $2,488.07 was expended in the construction of a widening or reinforcing block on the seaward face of the middle of the length of the breakwater. The new block is 80 feet long, 10 to 12 feet wide and 20 feet high, of the usual type of stone-filed cribwork.

SCOTCH COVE

Scotch Cove (White point), Victoria county, is an important fishing station in the southeastern part of Aspy bay, on the northeastern coast of Cape Breton island.

During 1920-21, the outer end of the work which had settled, was levelled up, about 100 cubic yards of ballast were replaced and about 700 feet boardmeasure of plank covering were renewed; the whole expenditure amounting to $262.91.

On December 19, 1920, a contract was entered into for the construction of an extension to the breakwater, 50 feet in length and 30 feet width, and which was to be completed on or before November 26, 1920, but as the contractors could not obtain the necessary materials, the time of completion was extended to July 1, 1921. Up to the end of the fiscal year 1920-21, the work under contract was not commenced, but it is expected that it will be commenced as soon as possible after the opening of navigation and completed within the time limit.

SHENACADIE

Shenacadie, Cape Breton county, is on the southern side of the Little Bras d'Or lake, and directly opposite the town of Baddeck.

An agitation has been on foot for some years to have a wharf built at this place, and use this harbour as a terminus in place of Iona.

On April 1, 1920, a contract was entered into for the construction of the proposed wharf in the sum of $11,821.30 (unit prices).

The work was commenced on September 23, 1920, and was satisfactorily completed on March 17, 1921.

The wharf consists of a pile structure, 340 feet in length and 31 feet 4 inches in width, and extending to 9 feet at low water. The bearing piles are of creosoted timber with the exception of one bearing pile on each side of each bent, which can be easily renewed, and these as well as all fender piles are of native timber.

SOBER ISLAND

Sober island, Halifax county, is situated at the mouth of Sheet harbour, 60 miles west of the city of Halifax.

On April 22, a contract was let for an extension to the wharf. The extension was placed along the face of the old work for a distance of 76 feet, having a width of 20 feet at the lower end and at the upper end being 10 feet wide, with an average height of 25 feet. The old work was stripped back for 20 feet and connected up with the new work for one longitudinal and one cross tie. New top was placed over the part where the join was made. Shed was also enlarged and repaired, the enlargement being about 8 by 14 feet. Work completed during the month of July.

SYDNEY

Ingraham's Wharf

Ingraham's wharf is a private wharf in the city of Sydney, Cape Breton county, but is used for general shipping purposes by the public. It is 300 feet in length, 60 feet wide, and extends to 24 feet at L.W.S. Spring tides rise 5 feet.

The object of the dredging was to make a berth 100 feet wide and about 70 feet long and dredged to 15 feet at low water on the northern side of the inner end of the wharf, and the estimated quantity of material to be removed to effect the desired improvement was placed at 1,500 cubic yards scow measure.

Departmental dredge *No. 13* commenced operations November 17, 1920, completed on November 20 following, and during that period the material removed was

1,632 cubic yards scow measure, and consisted of mud, clay, and stones. The work was done in a satisfactory manner and the proposed depth was obtained over the entire area, excepting at the inner end of the wharf, where the dredge could not work with safety closer than from 12 to 15 feet from the faces of wharf.

McKinnon's Wharf

McKinnon's wharf is a private wharf in the city of Sydney, but is used for general shipping purposes by the public.

It is about 200 feet in length and 40 feet wide, extending to 20 feet at L.W.S., which rise here 5 feet.

The object of the dredging was to improve the depth of water at the sides of the wharf by dredging berths on each side, 120 feet long and 40 feet wide, to a depth of 16 feet at L.W.S.

Departmental dredge *No. 4* commenced operations on October 28, and continued until 29th, when owing to a weakened boom, the dredge had to be laid up. During these two days she removed 768 cubic yards scow measure of material, consisting of clay, gravel, and rock.

On November 15, 1920, the departmental dredge *No. 13* resumed the work and completed it on November 25 following, as far as it was possible to do so with safety.

The required depth of 16 feet at L.W.S. could not be obtained over the whole area desired on the inner end of the southern side of the wharf, owing to the shoalness of the water, which prevented the scows from floating, and permission could not be obtained to overcast the material in the adjoining water lot, but about 100 cubic yards of material were overcasted and placed on the wharf to fill up a hole where ballast had been displaced.

The total quantity of material removed, consisting of clay, gravel, and rock, is 4,113 cubic yards, scow measure.

Sydney Foundry and Machine Company's Wharf

The Sydney Foundry and Machine Company's wharf at Sydney, N.S., is a private wharf and used entirely by the company for their purposes.

Departmental dredge *No. 2* commenced work May 14, 1920, and suspended operations on the 17th following, and during this period the plant was actually dredging only 14 hours, 7 hours being lost on account of tide being too high, and 9 hours being lost in making repairs. The amount of material removed was only 240 cubic yards scow measure.

The material encountered proved to be much harder than anticipated, and too hard for dredge *No. 2* to make a good showing in: the plant could not dredge to a greater depth than 27 feet.

On suspension of operations it was decided that dredge *No. 2* could not work to advantage here and was ordered to proceed to New Campbellton.

YARMOUTH

(1) The object of the dredging was,—

(*a*) The widening of the channel or inner harbour in front of the wharves.

(*b*) The removal of a small amount of silted material caused by the operation of the dredges, that prevented the full operation of the marine slip railway.

(2 and 3) The dredged area (*a*) is part of a strip 2,900 feet long, situated on the western side of the harbour, varying from zero to 350 feet in width from zero to 26 feet in depth.

1920-21, the dredge started from a point south of the new Burrill-Johnson Iron Company's south wharf, situated in the upper portion of the harbour, and worked south a distance of about 1,700 feet, covering an area varying from 140 to 380 feet in width and leaving the bottom at the end of the season from 18 to 19 feet below L.W.O.S.T.

The portion of the harbour thus dredged gives a width of from 400 to 800 feet of navigable water. The portion of strip yet to be removed is about 1,200 feet long, from 300 to 0 feet wide and contains about 188,000 cubic yards, place measurement. Completion of area already dredged over will require an additional 60,000 cubic yards of dredging, and on account of the silting up of the upper end of the harbour, northward to the upper end of the new Burrill-Johnson Iron Company's wharves, there is not sufficient water for proper navigation, to remove this an additional 70,000 yards of place measurement dredging will be required.

(*b*) Besides the above, about 2,500 cubic yards, place measurement, was removed to a depth of from 1 to 6 feet from an area in front of, and from over, the track of the marine slip railway, the area being an average of from 400 feet long and from 40 to 90 feet wide.

The material removed during the season was a stiff compacted fine silt that was readily water borne when disintegrated, but with sufficient argillaceous material to form a comparatively solid surface when deposited.

The amount of material removed from the west side of the harbour area during the season is 234,200 cubic yards, place measurement. This does not take into account any possible silting over area after dredging and before last survey was made.

Work was done by the Government suction dredge *Northumberland No. 5*, started May 25, and stopped November 9, 1920.

PRINCE EDWARD ISLAND

BAY FORTUNE

Dredging

Bay Fortune harbour is on the eastern coast of Prince Edward island at the mouth of the Fortune river, here emptying into Fortune bay.

Dredging operations were resumed May 8, and carried through to a satisfactory completion July 17, the quantity of material removed between the above dates being 10,848 cubic yards, scow measurement, of sand, brick clay, gravel and shelly rock, making a total quantity of 17,466 cubic yards, scow measurement, removed during the two seasons in connection with the improvements.

The work done consisted in forming a channel 80 feet wide through the outer bar from the 7-feet contour in Fortune bay into the head-block of the breakwater a distance of about 1,200 feet and cleaning out balance of channel inward for a distance of 900 feet or to a point 50 feet beyond the two small piers located on either side of inner portion of the harbour; suitable loading berth as well being dredged along channel face of each pier. The least depth in any part of the channel after completion was 7 feet at low water spring tides and as no indications of any filling in have yet been observed a reasonable permanency is expected.

CHARLOTTETOWN

Dredging

During the period June 21 to August 20, further improvement of the harbour was effected by departmental dredge *No. 9*, operating first at the dock between the Queen's wharf and Buntain and Bell's wharf completing work suspended there on

the close of navigation of the previous season. A berth was formed 345 feet long, 80 feet wide at outer end and narrowing down to 50 feet at inner end, grading from 20 feet of water at low water spring tides on outer end up to 14 feet at inner end. On the east side of Buntain and Bell's wharf, a berth 425 feet long averaging 50 feet wide was then formed; outer half carrying about 20 feet at low water, spring tides, inner half grading up to 12 feet. Work was completed July 8, 9,465 cubic yards, scow measurement, of principally mud and sand being removed. Owing to narrow width of inner portion of the dock on eastern side of the wharf it was found necessary to overcast 130 cubic yards of material during progress of the work; all of which was afterwards redredged and scowed away.

The dredge then commenced operations on July 8, on the west side of the Canadian Northern Railway wharf on a berth 400 feet long and 110 feet wide, the outer half widening to 190 feet, 75 feet from outer end. The depth of 20 feet at low water spring tides was provided along the outer 225 feet of the wharf, the remainder carrying for the most part 16 feet or better. Work was completed July 28, 11,115 cubic yards of sand, silt and soft mud having been removed.

On July 28, dredging was commenced by the same plant at the west side of the wharf of Messrs. A. Pickard & Co., cleaning out a berth 450 feet long, averaging 80 feet wide, the outer 100 feet widening to 120 feet while the inner 80 feet narrows to 30 feet. A minimum of 14 feet was provided over the outer 300 feet, the inner part grading up to about 12 feet at low water spring tides. Operations were completed August 20, 12,000 cubic yards of sand, mud and clay being removed.

Authority was granted to undertake some cleaning up of a dock located between the Marine Department and Buntain, Bell and Company's wharves before laying up dredge D.P.W. *No. 11* for the winter season, and operations were commenced by above dredge on September 24, and carried on until October 30 when instructions were received to discontinue work and lay up the dredge. During this period, 7,140 cubic yards of mud and brick clay were removed and considerable improvements made but the work was not completed to the depths desired, some 18,000 cubic yards, still requiring removal to satisfactorily clean up the whole dock, which work is now proposed for dredge D.P.W. *No. 9* on opening of navigation next season.

GEORGETOWN

Dredging

During the past season, at the request of the local Government some cleaning out of the docks was undertaken by departmental dredge *No. 9*, operations being commenced July 23 and completed August 7. On the Georgetown side 50 cubic yards of silt were removed from a shoal immediately in front of the landing slip, while at Lower Montague 1,326 cubic yards of mud, sand and silt were scowed away and 695 cubic yards overcast onto the wharf from where removed by the local Government. A cut 200 feet long was made up to the landing slip having an average width of 50 feet and carrying a depth of 7 feet at low water, but owing to the very soft nature of the material surrounding the wharf some silting in may be expected to take place from time to time.

NORTH LAKE

Is situated on the north coast of Prince Edward Island, about five miles west of East Point and two miles north of Elmira station.

With a view of making permanent a new outlet formed into the lake by fall storms in 1917, a contract was entered into September 23, 1919, for the construction of channel protection piers, entailing an expenditure of approximately $27,000; the description of the work to be built being fully described in annual report for 1919-20.

The contractors did not commence actual construction work until June 28, 1920, further delays were occasioned from time to time through sickness and other unforeseen difficulties preventing completion of the work by November 23, as specified in the contract.

Operations were suspended for the winter season January 4, on which date the work on the eastern side of the harbour comprising pier and beach protection having lengths of 330 and 107 feet respectively was completed with exception of the 4-inch top covering and boiler plate reinforcing on outer ends of the pier.

The time of completing the contract was extended by the department to August 31, 1921, and the contractors have made arrangements for the balance of material required; a portion thereof is now at site, the intention being to resume operations immediately the situation is free from ice.

The value of the work completed at end of fiscal year being estimated at $12,840.

SOURIS

Souris harbour is situated on the southeastern coast of Prince Edward Island, about 16 miles southwesterly from East Point.

The entire seaward side of the breakwater is protected by a rough stone slope and as serious settlement had occurred in that portion immediately in front of the extension built in 1914, tenders were called for the delivery and placing of from 4,000 to 5,000 cubic yards of stone along this section, and a contract was entered into on August 11, 1919, for the work at a price of $10.75 per cubic yard in place.

Delivery of stone under this contract first commenced on September 10, 1919, and continued until November 8, when suspended for that season owing to weather conditions, 1,714 cubic yards of stone having been delivered between the above dates. The contractors resumed operations again on July 3, 1920, carrying on continuously until September 27, on which date it was found that the 3,118 cubic yards delivered in that time had brought the height, length and slope of the work satisfactorily up to the requirements of the specification. Delivery of stone was therefore discontinued.

During the two seasons work was in progress, 4,832 cubic yards of stone all procured from the quarry at Wallace, N.S., and ranging from one to four cubic yards were delivered and placed along the seaward side of the outer 460 feet of the breakwater at a cost of $51,944; the stone being laid at an approximate slope of two to one.

VERNON RIVER

Dredging

Vernon, or Port Vernon as it is locally known, is situated at the head of navigation of the Vernon river, about two miles from its entrance into Orwell bay.

During the past season, shoals and points in the channel below the wharfs have been reduced by dredging so that a depth of 9 to 10 feet is carried at low water spring tides with a minimum width of 100 feet. Ample room has also been provided immediately below the wharfs so as to afford suitable approach and clearance. Operations were commenced August 25, by D.P.W. dredge *No. 9*, first in cleaning up the area in vicinity of the wharfs where a depth of nine feet and better at low water is now carried over a basin some 143,600 square feet, commencing with a width of 100 feet a distance of 500 feet below the wharfs and widening to 300 feet at a point 100 feet below from where the width decreases to the distance between the wharfs being 250 feet at their upper end; the approaching channel was then widened to 100 feet for a distance of 1,150 feet below the wharfs, carrying the same depth, entailing in all the removal of 34,955 cubic yards, scow measurement, of soft mud. The removal of 10,200 cubic yards of mud was then completed from the second turn in

the channel about 2,000 feet below the wharfs, greatly reducing the point here, and widening the 9-foot channel way to about 200 feet at the point of the turn, greatly facilitating its navigation by sailing vessels. Work was completed October 23, 45,155 cubic yards of mud being removed in connection with the improvements which should give satisfactory results for many years.

WOOD ISLANDS

Wood Islands harbour is situated about 30 miles from Charlottetown south-easterly, and 15 miles west from Cape Bear, being the most southerly point of Prince Edward Island.

The north breakwater, which has a total length of 2,450 feet, is now about a complete wreck, its upkeep not being considered a commercial necessity since the opening of the Murray Harbour Branch of the Canadian Northern Railway, (Prince Edward Island Division), which now affords shipping facilities for the district. A large portion of the south breakwater, which in itself forms a harbour of refuge for various small craft, is comparatively new work, particularly the two outer 100-foot blocks, and is of such public importance as to justify its upkeep.

During the past season, July 12 to August 10, the sum of $601.68 was expended in connection with placing 300 cubic yards of ballast stone in various portions of the seaward side of the south breakwater where settlement had occurred, and also renewing the 4-inch covering where required.

NEW BRUNSWICK

BACK BAY

Back bay is situated on an arm of L'Etite harbour, about four miles west of L'Etang.

During 1920-21, the old timbers in the top of the pier-head and the outer block were torn down four tiers, and rebuilt with two tiers of round timber, stringers and covering, to bring the work to the elevation of the approach. A floating slip was constructed alongside the pier-head and a freight shed, 12 feet by 20 feet, together with a gallows frame, for handling freight, were built on the wharf. This work was in progress between 7th October, 1920 and 14th January, 1921. During the month of March, 1921, the freight shed and slipway were painted.

Expenditure for 1920-21 was $3,852 90.

BATHURST

Dredging

In the Main or Nepisiquit channel 17 feet of water at low water spring tides is called for under the present project, but no doubt a depth of 20 feet will in time be adopted to meet the requirements of shipping and enable vessels to take full loads inside and sail at ordinary high tides.

Dredging has been in progress since 1913, except in the season of 1918, either with contract or departmental dredges or both, and the Main channel and turning basin at its head also the channel from the Middle river, leading to the Bathurst Lumber Company's mill number 1 and the departmental wharf have been dredged throughout but not as yet to the full width or depth.

There is a least depth of 16 feet in the channel across the outer bar but at the point where this depth occurs, about 3,400 feet beyond the harbour entrance, the channel is on the north side of the cut and is very narrow, the depth on centre line

being only 13·9 feet, and over a considerable length the 16-foot depth can only be counted on in a width of about 100 feet. Inside the harbour, the least depth on centre line between the Forks and the entrance is about 13 feet but about 13·5 feet can be counted on though the channel with this depth is, at two or three points, barely 100 feet wide. From the Forks upwards, the depth remains at about 16 feet. To complete the present project, the removal of about 580,000 cubic yards is still necessary, including about 67,000 yards in a branch channel along the town shore to the Eddy Company's mill.

The general dimensions of the work are:—On the Main or Nepisiquit channel, about 3·6 miles long from the entrance to the berth and turning basin at the pulp mill, the required width of cut is 200 feet increased to 300 to 350 feet at the turns and depth at low water to be 17 feet. The turning basin and berth together will have an average width of 450 feet, length of 900 feet and depth of 21 feet at low water. In the branch channel, the proposed cut is 2,000 feet long and 100 feet wide with 12 feet at low water. The Middle river channel is 4,500 feet long, proposed depth 15 feet at low water and width about 100 feet. The cut across the outer bar is 1·7 miles long, required width 200 feet and depth 17 feet at low water.

Between May 21 and October 7, 1920, dredge *P.W.D. No. 3* worked over the various shoals between the Forks and the outer end of the outer channel except some sections on the south side of the latter where the material is too hard for removal by this dredge, and the channel was widened and deepened at different points; a least depth of 16 feet was found but shoaling has evidently occurred since and is to be expected.

The quantities removed at the Outer bar were 31,665 cubic yards, at Ripple bar 14,243, at Ballast bar 20,968 and at Seal bar 39,334, a total of 106,210 cubic yards.

The material at the Outer bar is sand with firm clay below in places; on the Ripple, Ballast and Seal bars it is sand to fine gravel, partly loose and partly compact; from the Forks upward, the material varies from soft to stiff clay, with sand on the Tetagouche bar at the lower end of the Middle channel.

BUCTOUCHE

Dredging

At different times since 1913, dredging has been undertaken on the three shoals in the harbour channel, which have or had a limiting depth of about 10 feet at low water spring tides and there now remains to complete the channel to a depth of 13 feet a section of the outer bar or shoal having the least depth above stated.

During the season of 1920, dredge *P.W.D. No. 2* attempted to dredge this section but the material was so fine it could not be held in the barges and the dredge was removed to the then remaining Inner shoal about 1·6 miles below the town; the length of this shoal was about 2,650 feet and the least depth about 9 feet. The dredge worked on the Inner shoal between July 17 and September 25, making a cut 100 feet wide with 13 feet at low water ordinary spring tides, but shoaling has occurred at either end of the cut leaving a least depth of 11·2 feet, 55,130 cubic yards of soft mud were removed.

KOUCHIBOUGUAC

Kouchibouguac harbour, Kent county, is situated on the westerly side of the Northumberland strait, 12 miles north of Richibucto harbour and 18 miles south of Miramichi bay. It is protected from the sea by long beaches on which the works are situated.

Storms have made openings in the beach which at different times have been closed with dams. The last break occurred in November, 1911, and the diversion of a

large part of the tidal flow through this opening has seriously affected the depth in the main entrance, reducing it to such an extent that vessels during the past seasons have had difficulty in entering the harbour even at high water.

During 1920, a survey was made and contract plans for a dam and breastworks were prepared. It was considered, however, most economical and satisfactory to undertake the work by day labour and work was begun on 15th November and continued by this method until February 26, 1921, when the dam was completed. The total length of the dam is 270 feet and extreme height 17 feet, this height extending over a length of 100 feet near the centre and decreasing at each end to about 4 feet, the top being 3½ feet above high water. The width is 20 feet at the bottom and 17 feet on top. 138,000 cubic feet of brush were used in its construction, 5,730 lineal feet of fascines and 321 cubic yards of large stone, all of which were obtained on the mainland and hauled to the site on the ice.

On January 24, a strong tide carried away a length of about 60 feet of the deepest section of the dam, before it had been weighted with stone, but this was rebuilt and it is expected that the dam will, before long, be fully protected by a new beach which is forming outside since the current through the opening has been stopped.

Thirty thousand cubic feet of brush and 700 pickets were cut and hauled to the beach and are on hand for the construction of breastworks required to raise the low sections of the beach at either side of the dam.

Expenditure for the fiscal year was $3,667.95.

Dredging

The harbour consists generally of a shallow lagoon about 4 miles long by 1 to 1½ miles wide.

The main channel is that from the mouth of the Kouchibouguac river to the harbour entrance which is about 12 miles north of Richibucto and 18 south of Miramichi bay.

Between 3rd and 24th June, 1920, at three points or shoals in the upper half mile of the channel dredging was done by day labour with a small orange peel dredge belonging to the St. Charles Agricultural Society and rented at the rate of $20 a day including wages of engineer and cost of gasolene, oil and repairs.

At the uppermost shoal at the river mouth, a channel 125 feet long and 50 wide was dredged to a depth of 5½ to 7½ feet at low water where there was previously a least depth of 3½ feet; about 1,800 feet below the first shoal, a point on the south side of the channel about 150 feet long and 60 in greatest width was removed to a depth of 5·2 to 7·3 feet, the previous depths being 2·9 to 5·6 feet, and about 2,700 feet below the first-mentioned shoal, a point on the south side of the channel about 165 feet long and with a maximum width of 35 feet was removed to a depth of 5 to 8½ feet where the previous depths were about 4 to 6 feet.

The quantity of material removed was 1,577½ cubic yards, barge measure, and consisted of mud, sand and shells, and the cost was $880.47 or 55·8 cents per cubic yard.

NORTHWEST MIRAMICHI RIVER

Dredging

Shoals occur in the 3½ miles below Redbank, the head of navigation, and are known as Lawlors shore, Cassilis shoals and the Goodfellow bar.

Between 29th June and 8th October, these shoals were dredged on a width of 100 feet and to a depth of 4½ feet at low water, range of spring tide being 7 feet.

The cut at Lawlors shore was 1,700 feet and at Cassilis 450 feet long. At the Goodfellow bar, cuts were made removing the points of the shoal on the northern side and upper end of the channel for a length of 500 feet and width varying from 0 to 50 feet and on the southern and lower end of the channel for a length of 750 feet from 0 to 60 feet wide.

The quantities removed were 6,505 cubic yards at Lawlors shore, 2,653 at Cassilis and 2,397 yards at Goodfellow bar. The material was sand and gravel.

The work was done under contract with the Miramichi Dredging Company, Limited, at a cost of .54¾ cents a yard, barge measure, and the cost was $6,827.72.

Later in the season, a heavy freshet carried a considerable quantity of material over the area dredged at Lawlors shore and left a long section and two points, about 1,000 feet, with less than the required depth, the least depth being 3·5 feet; least navigable depth in the channel is now 3·7 or about one-half a foot less than was obtained in the previous winter.

Newcastle to Bridgetown

The shoal halfway between Bridgetown and Newcastle has been the chief obstruction to deep-water shipping from Bridgetown. This shoal was dredged in 1906 and again in 1910, but since 1910, parts have remained at the dredged depth while over other parts of the cut shoaling has occurred to the extent of about 1 to 3 feet; the general depth over the shoal is about 17 feet at low water and completion to this depth would give 21 to 23 feet at high water allowing vessels to load to 20 feet at the Bridgetown wharf. The least navigable depth in the channel is now about 15 feet at low water on account of the shoals and lumps, or scarcely more than the previous limiting depth.

Between 5th and 25th October, work was done by dredge *P.W.D. No. 2* in a section of the channel 2,130 feet long to a general width of 140 feet except at turns towards the ends of the cut where it was widened to about 180 feet; the depth called for was 16 feet at low water. Material removed was sand, gravel and clay, and the quantity was 11,296 cubic yards, barge measure.

PETIT ROCHER

Petit Rocher, Gloucester county, is a farming and fishing settlement on the Bay Chaleur, 12 miles north of Bathurst.

A breakwater was constructed between 1905 and 1908.

On December 2, 1919, a contract was entered into with Mr. T. P. Charleson for repairs to the breakwater. Work began on May 20, 1920, and consisted of placing 2-inch plank over the old covering of the pierhead on a length of 200 feet and average width of 17 feet; also over the outer section of the approach on a length of 171·7 feet and width of 9 feet; replacing 972 feet B.M. of 2-inch plank at the outer end of the pierhead which were carried away by a storm on October 2, 1920, and building and sinking in place a protection block at the outer end of the pierhead. The dimensions of the block are 50 feet long on the face next the breakwater, 20·2 feet long on the outside face, and 20·9 feet wide on top. 730·99 cubic yards of large stone were placed to form a talus along the outside face of the pierhead on a length of about 125 feet, and 100·12 cubic yards on the talus along the northern side of the approach. 60 cubic yards of small stone and gravel were placed to grade and level the roadway near the approach to the breakwater. The contract was completed on December 2, 1920.

Expenditure for the fiscal year was $13,285.08.

RICHIBUCTO CAPE

Richibucto cape lies on the Northumberland strait, 6 miles southeast of Richibucto harbour.

The works consist of a main breakwater and a southern pier inclosing a sheltered harbour about 2·8 acres in extent. They were begun in 1908 and since their construction the fishing business at Richibucto cape has doubled, being now over $50,000 in value annually.

Between July 24 and November 13, 1920, a mattress 44 feet long, 27 feet wide and 3 feet thick was constructed for a foundation, and on it the end block, 44 feet long, 25·4 feet wide and 10 tiers high, of the pierhead of the southern pier was built. Two tiers of lumber were laid on the southern pier for a length of 170 feet inwards from the pierhead to bring the approach to full height, and the latter for a length of about 280 feet was filled with brush, stone, and gravel. The pier was sheathed on the whole outside face, and on the inside face for a length of 124 feet from the outer end and, after a gap of 195 feet, for a further length of 58 feet, and covered with plank for about 58 feet at the shore end of the pierhead. The temporary breakwater was removed, and the block was raised with extra timbers about 2 feet at the centre, levelled, and new covering and cap timbers were laid. The inside face and upper section of the outer face was sheathed with hardwood. The 30-foot square block at the end of the pierhead was covered with plank, cap timbers and fenders were completed, and a slip 5 feet wide and 11½ feet long was cut in the inside face. Repairs were made on the original pierhead for a total length of about 95 feet by placing timbers upright inside the outer face and filling the adjoining bays with ballast. The scow used in connection with the work was wrecked by a storm, but the planking was saved and used for sheathing and covering the southern pier. At the end of the fiscal year, between 11th and 31st March, 1921, a haul-up slip, 30 feet long, was completed on a slope left in the end of the southern pier. The slipway is 3½ feet wide and formed of stringers and 6-inch diameter rollers, the rollers being of wood with iron rings at each end and running on 1-inch bolts turning in iron slips. The slip is for the use of fishing boats which can be hauled up there at all times of tide and avoids a delay of beaching the boats at high tide only.

Expenditure for the fiscal year was $4,491.25.

ST. CHARLES RIVER

Dredging

The St. Charles or Big Aldouane river flows into the northwest arm of Richibucto harbour about four miles northwest of Richibucto.

Between 5th and 9th July, 1920, 394 cubic yards, barge measure, were dredged at a cost of 66⅔ cents per cubic yard; work was done across three shoals lying about 1¼ to 1¾ miles below the head of navigation and about 3¼ to 3¾ miles above the mouth. The lower cut was about 250 feet long and 30 feet wide; the middle cut, about 600 feet above the lower, was about 140 feet long by 30 wide; and the upper cut, about 500 feet above the last, about 75 feet long and 15 wide. The depth given was about ½ foot at low water, ½ to 1½ feet of sand being removed.

ST. JOHN

Negropoint Breakwater

Authority was given to build a concrete breast wall on Negro Point breakwater, in order to stop the littoral drift being blown over the crest of the breakwater into the harbour. The wall was extended for a distance of 470 feet, being as far as the shingle behind the breakwater extends. The work was carried on continuously, and completed October 20. The total expenditure for the year was $4,611.72.

Deep Water Berths

Dredging.—During the year, the deep water berths were dredged to a uniform depth of 32 feet below low water. The work was done partly by dredge *No. 1* and partly by contract. During the season, the departmental dredge removed 20,237 cubic yards, and the contractor 35,001 cubic yards. Of these amounts, the departmental dredge removed 6,060 yards, and the contractor 17,365 at the Canadian National Railway's Long wharf, on the east side of the harbour. The total expenditure for contract dredging was $11,909.20.

Grain Conveyors

Messrs. J. A. Grant & Co.'s contract for the construction of grain conveyor galleries from the Canadian Pacific Railway's elevator to berth 15, West St. John, was completed at the end of August, the expenditure for the fiscal year being $35,149.30.

The contract for the installation of the conveyor equipment, which was awarded the Fegles Construction Company on May 20, was completed end of January, 1921, and was very satisfactorily operated during the shipping season. Expenditure, $64,020.33. Total expenditure, grain conveyors, for the year, $99,169.63.

Out of the total expenditure for equipment, the Canadian Pacific Railway contributed $12,529.73, being the cost of the work of connecting up the equipment inside their elevator.

Courtenay Bay

During the year, work was carried on continuously until the end of February, when the contractors suspended work on account of the appropriation being exhausted. The breakwater has been extended the full length of 2,500 feet and the work of laying large stones on the outer slopes has gone on continuously. Several storms have occurred during the year, but no material damage was done to the breakwater, although the contractors sustained damage to their derricks on two occasions.

Submarine Rock

Work proceeded continuously up to the end of December in the excavation of submarine rock at the entrance to the dry dock. The rock is enclosed by a close-sheeted timber cofferdam, which has given entire satisfaction. The area enclosed is 6¼ acres, and is kept dry with two electrically operated centrifugal pumps, one 6 and one 8 inch. In addition there is an 8-inch stanby pump. The total quantity excavated is 119,480 cubic yards. There remains to be excavated, 20,000 yards, which is intended to be left as a further protection to the dry dock, until the front walls are constructed and the gates erected.

Dredging.—In October, the 24-inch suction dredge *Tornado* commenced dredging in the basin, and very satisfactory progress has been made during the time the dredge has been at work. The material dredged is being placed behind the stone fill to the north of the dry dock site, where a considerable area is being reclaimed. The expenditure for the fiscal year was $1,340,523.79.

General Harbour Maintenance

During the season, considerable repairs had to be made to the various wharves and sheds in the harbour. At No. 7 wharf, the whole floor of the shed was renewed, and the wharf repaired; the roof of No. 15 shed was repaired; vertical fenders at No. 15 and No. 16 wharves were renewed where worn, and the floating fenders were repaired. The total expenditure for harbour maintenance for the period was $59,008.69.

Dredging

The main entrance channel to the harbour together with the various deep water berths are maintained at a depth of 32 feet below low water ordinary spring tides, as considerable littoral drift annually accumulates in the channel and berths, the quantity varying from year to year according to the frequency of storms.

During the past fiscal year, the areas dredged in the various berths were as follows:—

Berth	Contract dredging	Department plant
No. 1	370 by 30 feet	
" 2	460 " 15 "	
" 3	400 " 15 "	
" 4	375 " 15 "	
" 5	460 " 20 "	
" 6	770 " 15 "	
" 7	620 " 15 "	
" 7 Extension	225 " 50 "	
" 15	865 " 15 "	700 by 100
" 16	610 " 15 "	600 " 100
Long wharf	540 " 30 "	(East side) 400 " 35
	140 " 30 "	(East side)
	400 " 50 "	(West side)

The material removed was principally gravel and mud. The total quantity dredged in the various berths during the year was 55,238 cubic yards, of which 20,237 were dredged by the departmental dredge *Fielding* and 35,001 by contract. The contract price was 32 cents per cubic yard, scow measure, the contractor being Mr. J. A. Gregory of St. John. All the dredging was done during the months of September to February.

SHIPPIGAN GULLY

Shippigan gully, a passage between Shippigan island and the mainland, much used by fishing and other vessels in passing from Bay Chaleur to the Gulf of St. Lawrence, is situated 56 miles east of Bathurst.

Works were begun in 1875, to improve the channel at the gully in which there was then a least depth of only 3¼ feet at low water. The construction of dams and breakwaters, concentrating the current in one channel, increased the depth to nearly 6½ feet in 1898, 8 feet in 1903-4, and about 8·5 feet at low water or 14·3 feet at high water ordinary spring tides in 1915.

On September 27, 1919, a contract was entered into for general repairs and the construction of protective blocks at the western breakwater and by the end of the fiscal year 1919-20, the piles were all driven for the repair of the western breakwater and were secured with walings and cross-ties, and the breakwater was partly filled with brush and stone.

Work was resumed on April 7, 1920, and during the season of 1920, 6,580 cubic feet of brush, 236⅓ cubic yards of ballast and 8,685 feet B.M. of 4-inch covering were placed in and on the breakwater, completing the repairs of that work. A cribwork block 31·4 feet long, 23·3 feet wide and 20 feet high was built and sunk in place as an extension of the return pier, for the protection of the latter which was being undermined. The block is sheathed on three sides and filled with ballast. An ice-breaking block was built and placed about 250 feet from the inner face of the western breakwater which had been at different times damaged by ice carried down by the current and winds from Shippigan harbour. This block is 33 by 25·3 feet on the bottom and 16·3 by 20·5 feet on the top, being battered at the rate of 2 to 1 on the harbour side which is sheathed from the top to within 4 feet of the bottom with 6-inch hardwood plank. The three other sides are sheathed with 4-inch plank from the top to within 4 feet of the bottom. The contract was completed on August 27, 1920.

Expenditure for the fiscal year was $9,600.75.

WILSON'S BEACH

Wilson's beach is situated on the northwest side of Campobello island, 14 miles south of St. Andrews.

During 1920-21, 49,147 feet B.M. of 10-inch by 10-inch creosoted British Columbia fir was purchased for the purpose of sheathing the seaward side and end of the breakwater-wharf, and to strengthen and further protect it from damage by sea-worms. On account of the lateness of the delivery of this sheathing, the work could not be carried out during this fiscal year. One thousand (1,000) bolts were purchased and stored at the work, to be used next season in securing the sheathing. On November 12, the construction of a floating slip, alongside the wharf, was begun, and by December 25, 1920, it was completed and in good working order.

Expenditure for 1920-21 was $8,077.83.

PROVINCE OF QUEBEC

ANSE AUX GASCONS

Anse Aux Gascons, county of Bonaventure, is situated on the north shore of Baie des Chaleurs, 7 miles east from Port Daniel.

The breakwater-wharf was destroyed in 1916-17-18, and to replace it, a contract was entered into for the construction of a new work 400 feet in length by 20 to 30 feet in width to be completed on or before March 1, 1920, but work had not been commenced at the close of the fiscal year.

BATISCAN

Dredging

Batiscan is situated on the north shore of the St. Lawrence river, in the county of Champlain, between Three Rivers and Quebec.

Authority was given to continue dredging which had been commenced during the preceding year, and which had not been completed.

The work consisted this year in the dredging of a part of the western channel leading to Batiscan wharf, to a depth of 12 feet, below low water level, on a total area of 449,952 square feet. The quantity of material removed was 47,029·8 cubic yards scow measurement of sand.

Dredging was done by dredge *P.W.D. No. 116,* was commenced on 9th of June and discontinued on August 18, 1920.

BERTHIER (en bas)

Bertheir (en bas) in the county of Montmagny, is situated on the south shore of the St. Lawrence river, 29 miles below Quebec.

On September 28, 1919, a contract was awarded at an approximate price of $17,556.80 for the reconstruction of the superstructure of the wharf which had been carried away by a storm. The work was completed during the first part of the present fiscal year.

It is a closed-face cribwork with stone ballast and vertical posts on both sides of face-timbers, to solidly bind the new work to the old one. The total amount expended on this contract was $19,047.

Repairs were made to the shed and to the eastern slip which was entirely rebuilt.

The whole work was completed in May, 1920.

BIC (POINTE A COTE)

Pointe a Cote, in the municipality of Bic, is a favourite summer resort located a mile east from the village of Bic.

The wharf built at the end of the point along the Islet au Massacre had been abandoned and closed to traffic, owing to its partial destruction in 1912.

Work done during the fiscal year consisted in the making of an opening 55 feet in length, through the wharf and the cleaning up of this gap to permit flow of stagnant water lying between Islet au Massacre, the shore and the wharf.

Expenditure during the fiscal year was $480.90.

FABRE

The pilework wharf, built in 1905-06, was damaged when Lake Timiskaming ice moved in 1920. The piles along the north side of approach and landing-head were broken on a distance of 160 feet and the approach deck settled to an angle of 45 degrees.

A temporary approach, 8 feet wide, was built in June along the south side of original approach, at a cost of $101.50.

During the summer months, materials were secured to rebuild the approach and to complete the extension, 32 by 72 feet at east side of landing-head, on which work had been discontinued in March, 1920.

Construction was started November 29 and continued until December 20; operations being resumed January 5, 1921, and completed March 9. During this period, the approach to the wharf and a strip, 16 feet in width to the landing face were rebuilt in pilework on a total distance of 256 feet; the extension in rear of landing-head was completed and a new freight shed, 28 by 56 feet was built.

Expenditure during the fiscal year, $5,292.95.

GRANDE RIVIERE

During the fiscal year, part of the latest damage done to the landing pier was repaired.

One hundred and sixty feet by forty, giving 5,900 superficial feet, were raised an average of 12 inches and in places 2 feet, and the flooring renewed. Three thousand cubic yards of stone ballast were placed in outside sections.

The head of the pier, partly cut in a storm by the chain of a ship anchored alongside, being weakened by the teredo and limnoria, was carried away by ice and storms and had to be partly repaired.

Steel sheet piling were secured into place along the outside end and 10 feet back along face-works and well anchored both at front and top with the aid of a diver. Concrete bags were deposited outside so as to secure the lower portion of the piles, and inside, especially in the southwest corner, so as to build the whole of the outside end in mass concrete with back filling of stone ballast. Ten days' more work and the repairs at said outside end would have been completed when, on 3rd of November, a heavy sea from the southeast smashed in and broke all the native timber piles along outside facework for a length of 40 feet, carrying away seventeen of said piles just back of steel sheet piling cofferdam. This allowed the sea to rush in and to open up our cofferdam in the northwest corner first and then later the outside end facework, spreading about our concrete just deposited, together with all the stone ballast.

The diver reported that the whole of the framework, back of the native sheet piling was completely eaten up to H.W.L. and that all the stone ballast for a distance of at least 40 feet ashore of our repair works was partly gone.

Means were at once taken to close, by a temporary hardwood sheathing, the 15-foot gap, and by a heavy rip-rap along outside face, to break the impact of the sea against the south outside dismantled facework.

As we had not at hand and could not get on time the heavy rip-rap needed, some 400 of the reinforced concrete blocks prepared for sheathing were lowered down along the outside south facework, together with all the heavy stone rip-rap on hand, and the top of the piles were secured with walings made out of steel piles.

There is approximately $2,800 of materials bought and delivered unused besides sheet piling and plant.

Total expenditure, $9,841.45.

HARRICANAW RIVER

Dredging

The work in connection with the assembling and building of plant at Amos, Que., to be used for dredging on Harricanaw river, was resumed April 16. The dredge, gasolene towboat, house boat on pontoons and dump scow on pontoons were completed and in commission by the end of July.

A midstream channel, 50 feet wide and 440 feet long, to grade depth 6 feet, was excavated opposite the mouth of Landrienne river; during the period July 31-August 27, 3,416 yards clay (scow measure) was removed and spoiled in deep water downstream. Four spar buoys were placed to mark the new boat channel.

The plant was then removed to lake Demontigny, where a cut, 22 feet wide and 2,450 feet long, to grade depth 6 feet, was made across the bar obstructing navigation. During the period September 11-October 29, some 6,700 yards clay was cast over and 270 yards removed in the scow. At the outer end of the cut the material had to be loosened with explosives. Four spar buoys were placed to mark the new channel, which was used by the larger boats plying these waters.

An ice-house 10 by 10 by 8/10 feet high, and a storehouse, 10 by 12 by 8/10 feet high, were built at lake Demontigny, in connection with next season's dredging operations at this place.

The plant was moved to winter quarters at Amos.

Ultimately the improved channel at the outlet of lake Demontigny will be 60 feet in width to grade depth of 6 feet and approximately 2,500 feet long; the improved channel in the Harricanaw at the mouth of Landrienne river will be 100 feet in width to grade depth of 6 feet and some 460 feet in length.

Boulders and rock obstructing the small boat channel in the second and third rapids north of Amos were removed.

Work was performed October 12-22. Some 50 yards of rock and boulders were removed from the second and third rapids and below in swift water. Levels were taken at all rapids between Amos and the new saw-mill, located 9 miles north, and a section developed at the site of proposed dam. Outlay, $443.63.

Expenditure during the fiscal year:—

Dredging and plant..	$14,048.54
Improvements in rapids..	443.63
	$14,492.17

MURRAY BAY

Dredging

During the last season, the basin on the east side of the wharf was dredged to a depth of 15 feet below L.W.L., to allow the large barges to come alongside the wharf to take their cargoes.

This basin has a length of 250 feet alongside the wharf, back of the headblock, with a width of 72 feet at the head and about 100 feet at the entrance.

The dredged area measured about 25,700 square feet and had a mean depth of cut of 3 feet.

The basin was dredged by the departmental dredge *No. 110* from the 20th to 26th May, 1920.

The nature of the material excavated was sand, clay, and hard pan, and amounted to 2,855 cubic yards, place measurement.

NORTH TIMISKAMING

Tenders for the construction of a pilework wharf were received August 25 and rejected. The department decided to proceed with this work by day labour. Quotations were secured and materials ordered.

During, the winter, January 10-March 5, all piling was done (326 piles driven), double waling placed and bolted, all capping laid and temporary bracing was done. The structure, when completed during the summer, will extend out 244 feet 6 inches, with landing head 86 feet by 106 feet 4 inches and a combination freight shed and open shelter 92 feet by 20 feet.

Expenditure during the fiscal year, $13,248.68.

NOTRE DAME DES SEPT DOULEURS

Isle Verte or Notre Dame des Sept Douleurs, in the county of Temiscouata, is an island of the St. Lawrence, situated opposite the parish of Isle Verte, on the south shore of the St. Lawrence.

On November 6, 1919, a contract was awarded for the construction of an extension to the eastern wharf, on the lower end of the island, at Notre Dame des Sept Douleurs.

The contract was let on the unit price basis, for an approximate amount of $4,387.86, and the total sum paid to the contractors was $4,377.80.

The dimensions of the addition are 81 feet 3 inches in length, by a width of 21 feet for the first 30 feet 3 inches, and 30 feet 10 inches wide for the remaining length, the height of the outer end being 13 feet 10 inches.

The work was satisfactorily completed, according to plan and specification, in the month of August, 1920, the work being an open-faced cribwork filled with stone.

Western Wharf

During the last fiscal year ended March 31, 1920, tenders were asked for the construction of an extension to the western wharf on upper extremity of the island.

The dimensions of the proposed addition were 80 feet in length and a width of 21 feet for the first 30 feet and 30 feet in width for the remaining length, the height at the outer end being 17 feet, including cap piece.

The construction to be open-faced cribwork filled with stone. Many tenders were submitted but none was accepted and the contract was not awarded.

New tenders will likely be asked for this spring.

PTE-AUX-TREMBLES

The parish of Pte-aux-Trembles is situated about 21 miles above Quebec, on the north shore of the St. Lawrence river, in the county of Portneuf.

During the present fiscal year, the most emergent repairs were made to the wharf, summarized as follows:—

Rebuilding a part of the crib of the approach; taking off and renewing a part of the sheathing, flooring, cross-ties and longitudinals on both the approach and the head-block where decayed or broken; repairs to combined storehouse and lighthouse, relevelling the floor of the head-block on the southeast part; removing of corner straps

and boiler plates from the wharf and replacing same after sheathing had been renewed; construction of a new movable landing slip, and placing same in its proper position; building and placing two side ladders; renewing part of cap timbers; the iron guard railing, east side was taken off and replaced in proper position and the mooring posts, hoisting machinery, combined store and lighthouse were painted with two coats of paint.

This work was done under contract, commenced on August 23 and completed on November 15, 1920, and the total expenditure for the above mentioned work is $8,604.15.

POINTE PIZEAU (SILLERY)

Pointe Pizeau is situated in the parish of Sillery, county of Quebec, on the north shore of the River St. Lawrence, about 3 miles above Quebec.

The wharf which had been partly destroyed by the great storm of November 18, 1918, was repaired under contract, at a cost of $13,120.30.

PORT ALFRED

Dredging

During the past fiscal year, dredging consisted in the completion to 27 feet on a distance of 410 feet of the two cuts close to the north side of the wharf which were dredged to 16 feet in 1917; four cuts were made farther off having an approximate area of 72,000 square feet, and some re-dredging was done close to the wharf, as filling in had taken place, to 29 feet below low water. In order to give another berth, at the outer end of the wharf, nine cuts 36 feet in width were dredged to 27 feet below low water.

Material removed during the season as 187,720 cubic yards of mostly soft clay, and the work was done by departmental dredge *No. 110* between May 31 and October 25, 1920.

RIMOUSKI

Work done during the past fiscal year consisted in the continuation of the filling-up of the intervening space between the old and new construction with carted material of sand and gravel bought from farmers and delivered in place, and shale rock that was blasted in a quarry located near the wharf that was rented from the owner and operated by the department.

The space lying west of the old wharf was levelled over the whole area and may be considered as completed with the exception of the surfacing to be done when final settlement has taken place.

The northerly space lying north of the old wharf was filled up to a considerable extent and partly brought to a level with a flooring of cribwork construction.

Three hundred feet in length of the track foundation of the Canadian Northern Railway branch line on the wharf were repaired and put in good condition. All work was done by day labour.

RIVER ST. FRANCIS

Dredging

The River St. Francis rises in the counties of Compton, Beauce and Megantic.

During the last season, one cut 30 feet wide at the lower point of Ilets des Jones on a length of 2,000 feet was dredged to a depth of 8 feet below extreme low water level, to allow the free passage of boats and barges from the St. Lawrence to the channel in River St. Francis.

The area dredged is 6,666 square yards and had an average depth of cut of 5 feet.

The work was effected by departmental dredge *No. 121* attended by tug *Mina G* during the period extending from July 1 to September 15, 1920.

The material dredged was sand with traces of clay and the total dredging was 17,566 yards scow measurement, of which 2,770 was cast over.

This channel will be much improved if widened to 60 feet as proposed, during this season which widening would entail the excavation of another 14,700 cubic yards scow measurement of sand.

RIVER ST. MAURICE

Middle Channel

The Middle channel is one of the three branches of the St. Maurice river outlet, and is practically used for floating and booming logs only.

The works consisted in the dredging of a channel 60 feet wide, on a total length of 1,400 feet and to a depth of 4 to 6 feet below low water level. The quantity of material removed was 23,633 cubic yards, scow measurement, of sand with a small percentage of clay. The distance to dumping ground was ¾ of a mile, and the average depth of cut 7·6 feet.

Dredging was done by dredge *P.W.D. No. 123;* was commenced on April 28 and discontinued on May 29, 1920.

Eastern Channel

Dredging in the Eastern channel where refilling took place, consisted in the removing of a small refilling immediately below the sewer outlet of the Wayagamack Pulp and Paper Company.

The quantity of material removed was 1915·8 cubic yards of sand, clay, sawdust and refuse material of the Wayagamack Pulp and Paper Company.

The channel has a total length of 400 feet by 60 wide, and a depth of 12 feet below low water. The average depth of face was 2·1 feet, and the distance to dumping ground ¾ of a mile.

Work was done by dredge *P.W.D. No. 116*, was commenced on September 13, and discontinued on 15th of the same month.

STE. ANNE DE BEAUPRE

Ste. Anne de Beaupre is situated in the county of Montmorency-Charlevoix, on the north shore of the river St. Lawrence, about 21 miles below Quebec.

This wharf, which had been partly destroyed by the great storm of November 18, 1918, was repaired under contract and the expenditure up to March 31, 1921, was $28,339.65.

ST. FAMILLE, I.O.

St. Famille is situated on the north shore of the island of Orleans, in the county of Quebec, about 16 miles below Quebec.

This wharf, which was partly destroyed by the great storm of November 18, 1918, was repaired under contract and the total expenditure up to March 31, 1921, was $18,802.20.

ST. FRANCOIS SUD

St. Francois Sud is situated on the south shore of the island of Orleans, in the county of Quebec, about 27 miles below Quebec.

This wharf, which was partly destroyed by the great storm of November 18, 1918, was repaired under contract and the expenditure up to March 31, 1921, was $36,893.65.

ST. JEAN, I.O.

St. Jean is situated on the south shore of the island of Orleans, in the county of Quebec, about 18 miles below Quebec.

This wharf was partly destroyed by the great storm of November 18, 1918. It was repaired during the last season, under contract, and the total expenditure up to March 31, 1921, was $28,083.

ST. JOSEPH DE SOREL

St. Joseph de Sorel, a post village and parish in Richelieu county, on the south shore and on the Richelieu and St. Lawrence rivers.

In order to protect the shipyard and the harbour of Sorel, the Government built in 1890-91 two icebreakers on the south shore of the River St. Lawrence just at the meeting of the two rivers. A few years ago one of them, having been badly damaged by the ice, was rebuilt in concrete. This year, the other one being in a very dilapidated condition, in September last a contract was entered for the construction in reinforced concrete of a new icebreaker.

This new icebreaker is 25 feet 7 inches by 25 feet 7 inches at the base and 9 by 9 feet at top with two sides sloped 1 in 1 and other two sloped 1 in 12, standing 19 feet high above the ground. It is made of 2-foot thick reinforced concrete walls, perfectly filled with hand-placed stone. It is provided with a concrete foundtaion 3 and 4 feet wide, 2 feet thick, resting on a stone foundation 4 feet wide and 2 feet thick.

Total cost, $2,800.

ST. LAURENT, I.O.

St. Laurent is situated on the south shore of the island of Orleans, in the county of Quebec, about 10 miles below Quebec.

The wharf, which had been partly destroyed by the great storm of November 18, 1918, was repaired under contract and the slip and hoisting apparatus had to be renewed.

Total expenditure up to March 31, 1921, $20,679.53.

ST. MICHEL DE BELLECHASSE

St. Michel, in the county of Bellechasse, is situated on the south shore of the St. Lawrence, 15 miles below Quebec.

On July 20, 1919, a contract was entered into for the reconstruction of the superstructure of the wharf, which was carried away during a heavy storm in the fall of 1918.

About half of the work was performed when, during last winter, the ice damaged the part of the wharf which had not been repaired to such an extent that, owing to the great modification in the existing work, the department thought it expedient to cancel the contract, and on November 19 last an Order in Council was passed to that effect.

As the wharf in its present state is available to the public for only half its length, to accommodate the traffic, authority was granted to expend the sum of $650 for the construction of a temporary landing about 400 feet in length, consisting of a flooring 12 feet wide, supported by stringers solidly secured to vertical posts placed every 12 feet.

This work was done during the month of June. In the month of November, in order to place in safety the old timber of the damaged wharf which had been carried on shore and was scattered on the beach, a further sum of $90 was expended, making a total expenditure of $740 on day labour during the fiscal year ended March 31, 1921.

SOREL

High Level Wharf

In December, 1919, a contract was entered for reconstruction and repairs. The work was done during last summer and amounted to $10,146.55.

The construction of a permanent well for an automatic gauge being requested by the Department of Marine and Fisheries, an extra to the present contract was authorized on the basis of actual cost plus 10 per cent to make the necessary excavation and build a 4 by 4-foot well in 3-inch plank and properly braced. The work was done in October last and amounted to $554.31.

High Level Wharf and Stone Protection

The flooring on the pile construction of the downstream end of the high level wharf being in a dangerous condition, during last summer the whole flooring was renewed, together with the stringers and a great part of the beams. The stone protection from this pile structure to the entrance of the Lanctot basin was rip-rapped anew. This work was done by day labour at a cost of $2,548.80.

Pontbriand Wharf

This wharf, bought by the Government in 1913, was a close-faced crib structure resting on piles, 250 feet long and 14 feet wide at top.

Being in a dilipidated condition and a menace to navigation, its demolition was requested as necessary. The whole cribwork, together with the stone filling, was removed and nearly all the piles were pulled out and placed in a safe yard on private property. The work was done by day labour, at a cost of $941.45.

TROIS RIVIERES

Coal Wharf

A timber dock, an ice-breaker, a railway embankment and earth filling are located in the western section of the harbour opposite Wind Mill point. The timber dock is 640 feet long, and the ice-breaker, 115 feet long. The embankment extends from the back of the timber dock and ice-breaker, up to high water line, giving an area of about 600,000 square feet.

During the big storm of 1918, the eastern rip-rap and the embankment were considerably damaged, and repair works were absolutely urgent.

Repairs consisted in excavating the embankment back and alongside of cribs Nos. 2, 3 and 4, on a total length of 155 feet, by 36 feet wide at the bottom, on an average depth of 11 feet. The said excavation was refilled with four rows, one foot thick of facines mattresses mixed up with blue clay, and covered with ballast stone. The balance of the excavation was refilled with sand to the elevation of the top of the wharf.

The eastern rip-rap of the embankment was remodelled and realigned to its former position and shape. The whole of the stone of the rip-rap was removed and carefully replaced by hand.

During the progress of the works, a careful inspection of the face of the cribs was made by a diver. It has been found that the different cribs had not been sunken close together, and that an open joint of the width, varying between 24 inches and 6 inches had been left between each of them, this being probably the cause of the washout of the embankment.

Under these circumstances, it was decided to close the joints Nos. 1-2-3-4 (joint No. 5 having been repaired in the previous years). Cement mixed with sand, put up in bags, was piled up by a diver at the exterior of the joints. At the back of those bags, concrete mixed up in the proportion of 1-2-4 was placed in the joints, on the whole width of the crib, in order that those joints be perfectly closed. When this work was completed, the outside sheathing in front of each joint was removed, and seven piles 50 feet long, 12 by 12 inches were driven close together. Those piles were sunk to an average depth of 11 feet, and secured to the top of the crib-work with 1 inch machine bolts, varying in length between 2½ and 3½ feet. In order that the above mentioned work be done, ballast stone placed above each joint had to be removed, and same was replaced when the pile-work was completed.

The embankment was also relevelled to the elevation of the top of the wharf.

This work was commenced on August 29 and completed on December 31, 1920. The total expenditure for fiscal year 1920-21, was $15,181.08.

VAUDREUIL

Dredging

The object of this dredging was to give access to Dominion wharf by *ss. Victoria,* drawing 8½ feet when loaded.

The site of dredging done is in Vaudreuil bay, from deep water of Lake of Two Mountains to 1,500 feet from lower light of Vaudreuil range or 1,500 feet from wharf.

From June 16 to September 18, departmental dredge *No. 123* worked here, and removed some 90,236 cubic yards scow measurement of soft clay and boulders.

Dimensions of dredging done are as follows: One cut, 9,446 feet long parallel with range of light by 50 feet wide at bottom; a supplementary cut on the downstream of the one above mentioned, 2,000 feet long, 35 feet wide from 10 foot-line or deep water of Lake of Two Mountains towards shore, parallel with range of light; a small cut made on the downstream side of range of lights, 600 feet long by 35 feet wide, the whole to a clear depth of 9 feet below extreme low water level or 9 feet on Ste. Anne de Bellevue lock.

ONTARIO

BELLE RIVER

From June 10 to 12 inclusive, 1920, a channel 5 feet deep at L.W.L., 25 feet wide and 1,100 long was dredged through the sand bar in Lake St. Clair opposite this point.

The work was done by the dredge *Peltier* of the Windsor Dredging Company, Limited. The quanity of materials removed was 2,860 cubic yards of sand which was overcast to the east of the channel and the expenditure was $400 (lump sum).

BOWMANVILLE

Owing to action of winds and currents, a gradual shoaling takes place in the entrance to this harbour and between the piers and this shoaling is increased by the sediment brought down by the river especially during the spring freshet. To such an extent had this occurred that on the opening of navigation in 1920, a governing draught of 7·0 feet prevailed between the piers and in consequence coal vessels were unable to reach the coal sheds and the town of Bowmanville with a population of 3,500 inhabitants was left without fuel.

It was decided to undertake dredging operations in order to provide a channel of 14-foot draught below zero of gauge or elevation 245 above mean sea level New York.

Commencing at a point one hundred feet northerly from the north side of the coal shed and at a distance of 20 feet from the westerly side of the east pier, a channel 75 feet in width was dredged extending lakeward for a distance of 400 feet. From this point the channel was reduced in width by 25 feet less, leaving 50 feet in width continuing between the piers to a point one hundred feet northerly from the outer end of the piers. From this point the channel was widened to the full width of 100 feet and was carried out to the 14-foot contour line. The total area comprised 96,875 square feet and the material consisted of sand, silt and some debris that was carried down by the spring freshet in the river.

The entire improvement was carried out by the C. S. Boone Dredging and Construction Company, whose contract price was 64 cents per yard, place measurement.

BRONTE

Bronte, in the County of Halton, is an important fishing station of Lake Ontario.

Repairs by day labour were commenced October 19 and were completed on November 22; the work consisting in the levelling up and reconstruction of the superstructure of the south pier. Commencing at the easterly end of pier and extending westerly a distance of 470 lineal feet, 2 to 3½ courses of face-timbers together with cross ties, decking, etc., were removed and new timbers and decking placed in position and secured in the structure. This pier varies from 15 feet to 20 feet in width over its length.

Timber and decking for this pier had already been purchased and was piled on the site at Bronte.

A small checkwater, 50 feet in length by 10 feet in width was constructed at shore end of pier from salvaged timber, to stop wash from lake in time of storm cutting behind pier through beach to river.

Expenditure for the fiscal year was $2,011.15.

BURLINGTON CHANNEL

Burlington channel, in the county of Wentworth, is simply a dredged channel through a low lying piece of land. known as Burlington beach, connecting Lake Ontario with Burlington bay. Through this channel vessels are enabled to reach the wharves at the city of Hamilton.

(1) Authority was given February 12 to enter into an agreement with the Strauss Bascule Bridge Company for the preparation of plans and specifications in connection with Burlington Channel bridge and to pay the Strauss Company $12,500 for these plans and specifications.

(2) Authority was given May 11, to expend the sum of $5,800 for the maintenance and operation of the Burlington Channel bridge and to expend one-sixth of this amount.

(3) Authority was given in letter No. 2467 dated June 8, to expend the full amount of $5,800 mentioned above for maintenance and operation of Burlingtou bridge.

(4) Authority was given July 8 to expend the sum of $17,000 for the completion of the work under Contract No. 12292 with the Ottawa contractors for the reconstruction of a portion of the South pier at Burlington channel.

(5) Authority was given November 5 to expend the sum of approximately $75,053.46 in connection with a contract for the removal of the old swing bridge and the construction of the substructure of a single leaf Strauss trunnion bascule bridge over the Burlington channel.

(6) Authority was given March 7 to expend the sum of $200 in removing the old derelict ferry scow which is a menace to small boat navigation.

(7) Authority was given March 14 to expend the sum of $228,896 in connection with the construction of the superstructure of the bascule bridge at Burlington channel. The extra amount required for this work over and above that already authorized namely, $152,000 to be provided by Parliament at its present session.

Work Accomplished

Plans and specifications were prepared by the Strauss Bridge Company, providing for a lift bridge, having a length over all of 202 feet, and with a width over all of 34 feet, comprised of a roadway 22 feet in width and two sidewalks each 6 feet in width.

Burlington Channel swing bridge was placed in commission on April 1 and closed for season on December 13.

A temporary crossing was constructed over Grand Trunk Railway bridge, to permit of the passage of pedestrian traffic across Burlington channel during the construction of the new lift bridge.

Expenditure, $5,579.38.

Work under contract with the Ottawa contractors was continued on April 1 and this contract was completed and final estimate was given on January 6, 1921.

The construction work covered by this contract consisted in the reconstruction in timber of 200 feet of the south pier superstructure with a width of 20 feet, said renewal commencing at a point 300 feet measured easterly from westerly end of the south pier.

Expenditure, $16,629.99.

A contract was awarded the Canadian Engineering and Contracting Company for the renewal of the old swing-bridge and the construction of the substructure of a single leaf Strauss Trunnion bascule bridge on November 30.

Work was commenced December 15 and up to the end of the fiscal year the following portions of contract work were accomplished:—

(1) Removal of superstructure of old swing-bridge.

(2) Excavation for rest pier, counterweight pier and part of main trunnion pier, totalling 417 cubic yards.

(3) Supplying and driving 26 round piles for rest pier and 36 round piles for counterweight pier, in all 2,136 lineal feet.

(4) Filling in of southern approach 2,923 cubic yards.

(5) Delivery of materials for balance of work.

Expenditure, $17,908.19.

Operations for removal of derelict scow blocking small boat navigation, were carried on and this work was completed March 24.

This scow was located approximately 500 feet north of channel and 150 feet from shore.

Expenditure, $150.

A contract was awarded the Hamilton Bridge Works Company for the sum of $228,896 for the construction of the superstructure of the single leaf bascule bridge.

No expenditure has as yet been incurred in connection with this contract.

Summary

To paid Strauss Company	$12,500.00
Swing bridge maintenance	5,579.38
Renewal south pier	16,629.99
Lift bridge substructure	17,908.19
Removal of scow	150.00
Grand total	$52,767.56

COBOURG

A contract was awarded the York Construction Company (at unit prices) approximating $13,171.20 on September 15, for the reconstruction of a portion of the superstructure of the checkwater, covering a length of one hundred and eighty-seven feet nine inches and with widths varying from 37 feet to 15 feet and to a depth of one foot below zero of gauge, also the construction of a new superstructure consisting of block and mass concrete over the above lengths and widths.

This reconstruction commences at point of junction of checkwater with east pier and extends westerly 91 feet 6 inches, thence southwesterly 96 feet 3 inches to junction with the work previously completed.

Operations were commenced September 13 and contract was completed and final estimate given January 5, 1921.

Expenditure for the fiscal year was $13,564.30.

Dredging

Owing to the action of waves and currents in the vicinity of Cobourg, a bar forms almost annually at the entrance to the harbour and as the presence of this bar interferes with the car ferries making the port in stormy weather, dredging operations have to be resorted to frequently.

In addition to the shoaling at the entrance, it is necessary to keep dredged the section in the inner harbour where the car ferries turn to enter and lay up at the dock. Commencing at a point 550 feet southeasterly from the south end of the east pier, a bell mouth channel was dredged 210 feet wide at the south end and 100 feet in width at the north end extending northwesterly to opposite a point measured 50 feet south of south end of the east pier and at a distance of 75 feet measured westerly from same. From this point the 100 foot width of channel continued north for a further distance of 820 feet and the east boundary of the channel was located parallel to and at a distance of 75 feet from the line of the southerly portion of the east pier.

The whole of the above area was dredged over, the material removed consisting of gravel, sand, silt and clay. This excavation was carried on by the Frontenac Dredging Company under contract dated August 9, 1920, and the tender rate was 55 cents per cubic yard, scow measurement.

Work was commenced by dredge *St. Lawrence* on August 14 and dredging was completed on September 22, the amount of material removed scow measurement being 17,736·74 cubic yards. For this the contractors were paid $9,755.21.

CONNAUGHT STATION

The proposed pilework wharf to be built at Connaught station, on the Frederickhouse river, consists of an approach 174 feet long by 20 wide, a landing head 96 by 32 feet and a freight shed 16 by 24 feet constructed on a separate pilework substructure. A depth of 6 feet at L.W.L. is provided at landing face, and structure will be built to a height of 5 feet above this level.

Materials were ordered in August, 1919, with a view to construction by day labour. Work had not been undertaken up to March 31, 1920, due to delay in delivery of material and unfavourable labour and ice conditions. Since no appropriation was provided for the execution of the work during the present fiscal year, the timber was repiled and the iron, etc., stored for proper protection until the work is proceeded with.

Expenditure during the fiscal year, $1,345.56.

FORT WILLIAM

The harbour now consists of 13·02 miles of navigable channels varying in depth from 19·4 to 28·0 feet and in width from 175 to 600 feet excepting in the channels through the bridges and in turning basins. The total area is 811·5 acres which includes an area of 148·8 acres in the entrance channels in Thunder Bay. Harbour frontage available for dockage, exclusive of frontage in Thunder Bay, 22·45 miles of which the frontage already built up with wharves and retaining walls is 7·72 miles.

During the past fiscal year, the following works were executed:

The Mission River breakwater extension described in last year's report was completed, work of completion was commenced May 14 and finished November 6. The piles driven last year were cut off to a depth of 22 feet below low water level; the cribs, 10 in number, were completed, sunk in place, filled and rip-rapped on both sides to approximately 10·5 feet from L.W.L.; the concrete superstructure was finished October 13.

This breakwater has a length of 1,230 feet, a width of 27 feet at the top and a height of 7·5 feet above water level at zero of gauge of 601·86 M.S.L.

The expenditure for the fiscal year was $238,326.23.

HAILEYBURY

During the month of June, a 52-inch Page fence with two 12-foot and one 3-foot gates was erected between roadway and dockyard property, and three rope-houses at large shipways were covered with tarred felt roofing.

Last April, the service dock was damaged by ice and nine piles were broken; in view of existing conditions as to public works on the lake, it was found unnecessary to restore this wharf to the former dimensions.

The damaged portion was partially demolished, October 2-November 5, when five broken piles were removed and the building of a new landing face was started by driving one corner pile and placing round timber waling at the east end; between March 14 and 18, the work was completed by removing the remainder of the broken piles and by placing four short fenders 10 by 10 by 5 feet. This work was done after part of the dredging plant such as bucket, dipper arm, spud shoes, chains, etc., had been removed from the dock and stored in the yard.

The departmental construction and dredging plant was accommodated here as in the past.

KAGAWONG

Kagawong is situated on the north shore of Manitoulin island, about 12 miles easterly from Gore bay.

A contract for the construction of a wharf and warehouse was entered into for, approximately, $11,667.86 (unit prices). Owing to the difficulty in obtaining delivery of materials, the contractors were unable to commence until September 20, 1920. It was carried on and was completed on December 8, 1920.

The work was necessary owing to the complete decay of the old wharf, which was useless for the purpose of reconstruction. It consisted of a pile wharf 120 feet

long by 16 feet wide, with an L headblock 36 feet by 30 feet, with a rock-filled roadway approach 84 feet long by 16 feet wide; also the construction of a warehouse 24 feet wide by 48 feet long on a pilework foundation.

The total expenditure was $12,017.44.

KINCARDINE

Dredging

It was decided to undertake dredging operations in order to provide a clear channel of 14 feet below zero of gauge or elevation 580 above mean sea level New York.

Between the piers, a 50-foot channel 300 feet in length was excavated removing the shoal area which blocked entrance into the inner harbour. The dredging was commenced at a point opposite the east end of the freight shed and extended lakeward for a distance of 300 feet. No material was excavated closer than 25 feet from the north pier.

The material removed consisted of sand, river deposit and some stumps and débris that was carried down by the spring freshet in the river. The total quantity dredged scow measurement being 3,500 cubic yards.

The amount of material dredged below subgrade amounted to 143·4 cubic yards, place measurement. This dredging was carried out by the C. S. Boone Dredging and Construction Company, whose contract price was $1 per cubic yard, scow measurement. They commenced work with the dredge *Kingsford* on July 5 and completed their contract on July 12, 1920.

KINGSTON

Dredging

To provide at temporary bridge site and in the inside channel a 14-foot draught for vessels passing in and out of the inner harbour, and to provide a 12-foot draught for vessels loading and unloading at Campbell's, Crawford's, and Swift's docks, an area was dredged at the temporary bridge 200 by 600 feet and 10,310 cubic yards removed, at Campbell's slip an area of 150 by 175 feet where 934 yards were removed; at Crawford's slip over an area of 125 by 100 feet where 354 yards were removed, and at Swift's slip over an area of 275 by 90 feet 1,238 yards were removed, all place measurement. The material was clay, silt and boulders; work was done September 28th to November 17th, by the Frontenac Dredging Company for 50 cents a yard. The dumping ground was two miles out in lake Ontario.

The area still to be dredged at the temporary bridge is 300 by 175 feet.

Expenditure for the fiscal year is $6,418.

KINGSVILLE

Dredging

Between September 15 and October 9, 1920, departmental dredge *Q. & R No. 1* improved the entrance to the harbour and deepened the berths alongside the eastern pier for the accommodation of vessels using this port. The dredged channel is parallel with the range light (N. 11 degrees 0 minutes W. Ast.) and is 25-65 feet west thereof.

The dimensions of the dredging done are as follows:—

Entrance Channel.—Length of cuts, 1,035 and 200 feet; width at base, 40 feet; general depth 14 feet; minimum depth 13·3 feet.

Berths at wharf.—Length of cuts, 390 and 50 feet: width at base, 75 and 40 feet; general depth, 12·5 feet, and minimum depth at inner end 11·1 feet.

The total quantity of sand and silt removed was 8,959 cubic yards, scow measurement, and the cost of this work was $17,140.13.

Only part of the work laid out at this port was attended to owing to the lateness of the season and to the shortness of funds. The dredge was accordingly laid up at Kingsville with the idea of completing the necessary widening and deepening of the channel during the present year.

LITTLE CURRENT

The town of Little Current is situated on Manitoulin, on the narrow strait which connects the waters of Georgian bay with the north channel of Lake Huron.

A contract was entered into at unit prices (total amount approximately $40,831.32) to perform the work and complete it by May 19, 1921.

The work will consist of a wharf 300 feet long by 16 feet wide on top with pile-work substructure and concrete superstructure; a warehouse building of concrete stucco, with concrete walls and concrete floor, 30 feet wide by 60 feet long; an office and waiting room building 22 feet wide by 32 feet long with extension roof all around, also of concrete stucco construction; and the filling and grading of the site in the rear of the wharf. The work is necessitated by reason of the destruction of the previous wharf and warehouse by fire in February, 1919. The work performed to date consists of the completion of the substructure of the wharf, along with anchorages and anchor rods, the placing in position thereon of all the concrete blocks forming the lower part of the superstructure and the completion of 70 per cent of the filling in the rear thereof.

The value of the work performed to date is $22,295.59.

L'ORIGNAL

The public wharf, built in 1897-99, was repaired June 15-22 and August 10-September 6. During June (15-22) three new crossties 9 by 12 by 10 feet, two face-timbers, 9 by 12 by 17 feet, and two stringers, 10 by 10 by 16 feet were placed on wharf, damaged by ice-shove in spring. Some 5,000 feet board measure of 3-inch flooring was laid on low level landing and approach and minor repairs made to lower slip; one mooring hook was placed on high level landing.

On July 26th, fire of undetermined origin destroyed the landing-head above the water line, 80 lineal feet of pile work approach, freight sheds and contents. In order to re-establish river traffic as soon as possible, reconstruction was proceeded with almost immediately. Between August 10 and September 6, debris was removed, some repairs made on cribwork of landing-head, piles cut off for a slip in the damaged portion of approach (seven bents) and pile-caps, 9 by 12 by 14·5 feet placed on same, using for that first part of the works some 7,000 feet board measure of material on hand. After a delay, works started again September 23rd, and were completed for this season October 25th. Wharf was reopened to traffic October 6th. Works carried out consist in completing the slip, 80 feet long by 16 feet wide, with the exception of handrailing, completing erection of cribwork of landing-head, including ice-breaker, placing 3 inch flooring on low level landing and 50 per cent of sheeting on ice-breaker. Pile-caps were also placed ready to receive flooring system of freight shed next season. The debris of the downstream pier was razed to low landing elevation. Provision was made for a temporary freight shed, which will be used, after completion of works next year, as a cattle shed. The whole of the work is of a permanent nature.

Expenditure during the fiscal year, $4,345.11.

OAKVILLE

Dredging

It was decided to undertake dredging operations in order to provide a clear channel of 14 feet draught below zero of gauge or elevation 245 above mean sea level New York.

Commencing at the 14-foot contour line in the lake approach, a bell-mouth channel varying from 150 feet in width at southerly end to 50 feet in width at the northerly end, was dredged over a length of 300 feet to opposite the south end of the east pier. From this point a channel 50 feet in width was dredged between the piers for a length of 600 feet to opposite the northerly end of the east pier. From this point a slight deflection easterly was made in the channel line and dredging was continued with a 50-foot width of channel a further distance of 600 feet to a point opposite King street.

The material removed consisted of sand, river deposit and debris that was carried down by the spring freshets in the river. The total quantity dredged, scow measurement, being 20,891 cubic yards, giving an expansion factor of 20·1 per cent.

This work was performed by the C. S. Boone Dredging and Construction Company whose contract price was 65½ cents, place measurement. They commenced work with the dredge *Meade* on July 23 and completed their contract on August 30, 1920, payment being made by the department for the removal of 16,603 cubic yards.

OWEN SOUND

Authority was given in connection with contract which was awarded September 27 at unit prices for the reconstruction of 739 lineal feet of the town wharf on the east side of the Sydenham river extending from the northerly end of the Government revetment wall to the property of the Canadian Pacific Railway, bounded by the northerly limit of 11th street east.

The work consists in the construction of sheet piling face wall and pile bent substructure, together with capping, stringers and block seat timbers and a concrete superstructure arched between bents with concrete decking.

Construction was commenced November 29 and up to the end of the fiscal year the following work has been accomplished:—

(1) Removal of all apparent obstructions to the carrying out of the work including the whole of the superstructure and the greater part of the substructure of the old work together with the removal of certain portions of the old close-piling in the rear that interfered with new work.

(2) The driving to within about 3 feet of final penetration of 42 round piles forming the rear members of the various bents.

Expenditure for the fiscal year was $11,084.91.

PELEE ISLAND

Pelee island, Essex county, is situated at the west end of Lake Erie.

The work of repairs performed on the north pier was as follows:—

Close planking the spans and the shore approach to pier, the renewal of stringers, decking and face timber near the warehouse, and 37 cubic yards of gravel and 30 cubic yards of clay were placed in the road approach to the crib.

Operations were commenced on July 19 last and carried on at intervals until March 25.

Work performed on the west pier was as follows:—

A contract was entered into for the renewal and replacing of the warehouse and the reconstruction of 85 lineal feet of superstructure at the outer end, being exclusive

of the outer end for a length of 50 feet. This work was performed between November 3 and December 21 last. 600 cubic yards of old stone filling were removed and replaced and 140 cubic yards of new filling put in.

Certain minor additional repairs to this pier were made between February 23 and March 12 last at a cost of $190.46.

Expenditure for fiscal year 1920-21, was $8,068.09.

PORT ARTHUR

The following work was carried out during the fiscal year ended March 31, 1921.

1. *Extension to the rubble mound breakwater at Bare Point.*—A contract dated July 26, 1919, for the construction of an extension, 1,600 feet in length, to the rubble mound breakwater at Bare point.

Actual work on this contract was commenced October 18, 1919, and continued throughout the winter. By March 31, 1920, 700 lineal feet of the fill had been brought to the water's edge approximately, and 69,309 tons of rock placed.

After a temporary suspension due to the spring breakup, work was resumed on May 5, 1920, by the scow method, which was continued until July 19, 89,627 tons of rock being deposited and the fill for the entire length being brought to approximately the water level; the use of scows, therefore, had to be discontinued.

A construction track was then laid from the quarry out over the original Bare Point breakwater and the work carried on by means of train fill from trestle, 101,407 tons of rock being placed in this manner up to January 22, 1921, when the breakwater was practically completed with the exception of the covering course of large stone. Work was therefore discontinued as it was deemed advisable to allow some months to elapse to enable the structure to settle and compact itself before the latter was placed.

Authority was given for providing a further length of 250 feet, at the same unit price.

Work on this extension was resumed March 21, 1921, and 10,117 tons of rock were deposited during the month.

This work should be completed during the coming season.

Total expenditure fiscal year ended March 31, 1921, $297,194.44.

Dredging

As the last existing contract with W. E. Phin, for work in the harbour had expired at the end of the season of 1919 and as certain maintenance work in the shape of redredging slips, entrance channels, etc., was necessary, an entirely new contract dated July 2, 1920, was let to the Canadian Dredging Company. The authorized quantity was 151,000 cubic yards scow measurement class "B" material at a unit price of 28 cents. The work carried out under this contract during 1920-21 in detail, is as under:—

1. *Port Arthur Shipbuilding Company.*

(a) Entrance Channel.—Shoal areas on each side were dredged. Dimensions 60 by 650 and 60 by 800 feet. Depth dredged, 19 feet. Average depth of face, 5 feet. Governing depth throughout, 18 feet. Quantity, 16,000 c.y.p.m. Material sand and clay.

(b) Fitting Out Slip.—One cut was made along the face 30 by 500 feet. Depth dredged 19 feet. Average depth of face 4.2 feet. Governing depth throughout to shearlegs 18 feet. Quantity 2,333 c.y.p.m. Material sand, clay, gravel, hardpan and shale.

Unless a greater depth than 18 feet is required, no further dredging should be done for some years.

2. *Main Harbour Centre.*

(*a*) Three cuts running east and west were taken from the undredged triangular section outside the harbour line immediately southeast from the Canadian Pacific Railway wharf. Dimensions, 90 by 315 feet. Depth dredged, 25 feet. Average depth of face, 5.9 feet. Quantity, 6,479 c.y.p.m.

(*b*) Two cuts running east and west were redredged over a shoal area immediately west of the light at the main entrance. Dimensions, 60 by 350 feet. Depth dredged, 25 feet. Average depth of face, 3.8 feet. Quantity, 3,200 c.y.p.m.

Material in both cases sand and clay. Governing depth throughout main harbour centre and south 19 feet.

3. *Main Entrance Channel.*

Four shoal areas 90 by 325; 60 by 800; 60 by 530 and 60 by 800 feet were redredged. Depth made 25 feet. Average depth of face over entire area 2.7 feet. Quantities 15,555 c.y.p.m. Material sand and clay and soft mud.

This entrance channel should now be adequate for several years to come.

4. *Canadian National Railway Elevator "B" Slip.*

(*a*) *Extension.*—Owing to the construction of a new concrete workhouse at this plant the existing slip was extended toward the shore to meet the new requirements. Dimensions 125 by 375 feet. Depth dredged 25 feet. Average depth of face 14 feet. Quantity 26,960 c.y.p.m. Material clay overlaid with a considerable depth of sand which ran in extensively and required the whole area to be dredged a second time.

(*b*) *Redredging Slip.*—The existing slip was redredged throughout to give a uniform depth of 25 feet. Dimensions, 200 by 800 feet. Average depth of face, 3.6 feet. Quantity, 23,460 c.y.p.m. Material clay.

The governing depth throughout this slip is now 23 feet, and this improvement should be good for three or four years.

5. *Thunder Bay Elevator Slip.*—

Certain areas were redredged. Dimensions, 120 by 700 feet. Depth dredged, 25 feet. Average depth of face, 3.4 feet. Quantity, 11,500 c.y.p.m. Material sand.

Governing depth throughout this slip is now 23 feet, and no further redredging should be required for four or five years.

6. *Joint Slip between Dominion Government elevator and the Davidson and Smith elevator.*

Three shoal areas were redredged. Dimensions, (*a*) 90 by 465; (*b*) 90 by 430; (*c*) 30 by 500 feet. Depth dredged, 25 feet. Average depth of face, (*a*) 4 feet; (*b*) 4.6 feet; (*c*) 1.4 feet. Material sand and clay.

The governing depth throughout this slip is now 22 feet which should be satisfactory for the next few years.

One foot for subgrade should be added to all depth dredged given above.

The depth dredged in each case is referred to the zero of the Public Works of Canada gauge—601·86 mean sea-level.

The governing depth in each case is referred to a mean summer level of 602.5.

One dipper dredge, *The Excelsior,* one tug, the *F. W. Grant,* and two steel dump scows, with a capacity of 454 and 451 cubic yards, were employed on the work.

Actual dredging operations commenced July 19 and were completed October 23, 1920. The biggest days work was 3,177 c.y.s.m.

Total expenditure for the fiscal year 1920-21 was $42,705.84.

PORT BURWELL

Dredging

Dredging was done in the outer entrance channel, in the channel between piers and in Otter creek by departmental dredge *No. 117* from May 15 to June 1 last, and from August 18 to November 30 last, a total quantity of 131,072 cubic yards S.M. of sand, silt and clay being removed. The cost of this work for the calendar year 1920 was $41,704.64. In addition, owing to the entrance channel having filled in to a considerable extent during certain storms late in December last, this dredge again commenced operations on March 21 and prior to the closing of the current year 8,557 cubic yards S.M. were removed. This makes the total quantity dredged in this harbour during the past fiscal year 139,633 cubic yards S.M. Class B. material.

The work performed consisted in dredging the outer harbour so as to leave a safe depth of 21 feet below L.W.L. and in the inner harbour of 18 feet below L.W.L. which is 570·80 feet above M.T.N.Y.

PORT COLBORNE

Operations were resumed on contract of June 22 and it was completed and final estimate given September 20. The work accomplished was as follows:—

(1) Starting at a point 324 feet westward from jog in the back of the breakwater where the 50 and 25 feet widths abut and going westward, a new concrete wall 668 feet in length and in addition a 14-foot return at east end and a 10-foot return at west end were completed. This work was commenced in 1919 and was unfinished at the end of the fiscal year. The above reconstruction is 11 feet in height with a 10 foot base and a width on top of three feet.

(2) The completion of decking behind the new wall varying in width from two to thirteen feet, making in all 5,464·5 square feet.

(3) Underpinning of the superstructure of headblock of the western breakwater at the southeast corner for 31 lineal feet with concrete in bags and timber facing.

(4) Temporary repairs to face wall in lieu of permanent repairs for a length of 74 feet, 24 feet and 25 feet commencing at a point about 171 feet east from jog in back of breakwater where the 50 and 25 foot widths abut.

(5) The completion of the reconstruction of 70 feet of the superstructure at the east end of the east breakwater.

(6) Repairing a new break in the surface of front slope of the east breakwater 6 by 9 feet at a point 130 feet east of headblock.

Expenditure for the fiscal year was $12,626.35.

PORT HOPE

Dredging

Three sections were dredged over in this harbour of which sections "A" and "B" were in the west harbour and section "C" in the east harbour.

Section "A" commences at the northeast corner of the west harbour and extends southerly 200 feet and thence westerly 240 feet, the area containing 48,000 square feet which was dredged to solid rock. The excavation provided a general draught of 12·3 feet at zero level of lake.

Section "B" commences at a point measured 50 feet south from the northwest corner of the west harbour, thence from point of commencement east 75 feet, thence south 100 feet, thence west 40 feet, thence south 100 feet, thence west 35 feet to the edge of the wharf. This section contained 11,000 square feet and was dredged to solid rock providing a governing draught of 13·9 feet at zero level of lake.

Section "C" in the east harbour commences at a point measured 170 feet north from angle in the dock face at the foot of Mill street. Thence from point of commencement west 34 feet, thence south parallel to dock face 160 feet, thence southeasterly 190 feet, thence east 34 feet, thence northwesterly 190 feet, thence northerly 160 feet to point of commencement. This section contained 11,900 square feet and was dredged to solid rock and provided a channel 34 feet in width with a governing draught of 10·6 feet at zero level of lake.

The material removed consisted of silt, sand and loose rock and the quantities dredged were as follows:—

Section "A"—Total place, 3,254·6 cubic yards.

Section "B"—Total place, 1,328·1 cubic yards.

Section "C"—Total place, 2,718·7 cubic yards.

A contract was awarded the Frontenace Dredging Company for the above work and the tender price was for Section "A," $1.70 per cubic yard, place measurement and for Section "B" and "C" the tender price was 85 cents per cubic yard, place measurement.

Operations were commenced July 10, 1920, by dredge *Frontenac,* and the sections were completed and dredging finished August 10, 1921, the contractors being paid $6,153.83.

PORT STANLEY

Dredging

Between June 11 and August 17 dredging was performed in the outer entrance, in the channel between the breakwaters and in the inner turning basin, by departmental dredge *No. 117.*

All work in the inner harbour was performed to a depth of 19 feet below L.W.L., while in the channel between the piers and in the inner turning basin the depth dredged was 18 feet below L.W.L., or zero of gauge which is 571·80 feet above M.T.N.Y.

Ninety-two thousand three hundred and sixteen cubic yards scow measure, sand, silt and mud were removed.

Expenditure for calendar year 1920 was $28,740.29.

RONDEAU

Repairs were made to piers, construction of a sheetpile wall to the east of the east pier, reconstruction of superstructure of the west pier for a length of 227 feet 6 inches and repairs to the east pier.

Notification was given of the award of contract to Wm. Bermingham, Esq., for the construction of a sheetpile wall at his tender price of $15,360, unit prices, and notification was given of the award of the contract to the Border Cities Construction Company for the reconstruction of west pier, at their tender price of $16,119.37 unit prices.

Repairs to Piers

The following work was performed on the east pier between September 27 and October 30 last:—

Replacement of defective face-timbers, curbs, stringers and decking over a considerable area of the pier. A space between the submerged cribs which had washed out was also repaired.

Expenditure during fiscal year 1920-21 was $1,691.97.

Sheetpile Wall

A sheetpile wall 320 feet long is being constructed in front of the lightkeeper's dwelling between the eastern pier and groynes.

Expenditure during the fiscal year was $4,282.20.

The time for the completion of the contract has been extended to June 30, 1921.

Reconstruction of Part of Superstructure of West Pier

This work is being undertaken as part of the work of renewal of the old timber west pier, which is in a very defective condition.

The work under contract extends 227 feet 6 inches southerly from the concrete corner at the junction of the Lake Erie Coal Company's wharf and the Public Works wharf.

Practically all the materials are delivered and the work is being advanced rapidly and is now 60 per cent finished.

The work consists of the removal of the timber superstructure of the present pier and the building of a concrete facewall along the entire part to be reconstructed, together with bearing piles under the toe of the wall and anchor rods holding the wall securely in position.

The work done is as follows:—

The old superstructure is removed; the bearing and anchor piles are driven; half of the anchor rods are in place; the concrete footing blocks are nearly completed and the reinforcing steel, lifting rings, etc., are nearly completed.

Expenditure during fiscal year 1920-21 was $9,329.50.

Dredging

Authority was given to remove the shoals that had formed in the entrance channel and the Lake Erie Coal Company's slip.

The work was performed by D.P.W. *No. 117* between June 2 and June 10, a total quantity of 10,126 cubic yards S.M. of sand, gravel and mud being removed, at a cost of $0·339 per cubic yard. Total cost for the calendar year 1920-21, $3,436.35.

Dredging was performed to a depth of 20 feet and 19 feet below L.W.L., which is zero of the gauge elevation 571·8 feet above M.T.N.Y.

Repairs to Lightkeeper's Dwelling

Repairs were made to the lightkeeper's dwelling. This work was performed for the Department of Marine at an estimated cost of $1,600, and the work was completed at an expenditure of $1,478.

SAULT STE. MARIE

Dredging

The object was to complete the cleaning up of the river bottom to the standard harbour grade of 21·5 feet below a datum level of 582·57 above mean sea-level (1893 adjustment). The cleaning of the river bottom of stones and boulders was undertaken in 1919, but completion of it was not possible owing to the approach of winter weather. Five spots consisting of three small areas of ledge rock and two of loose rock had to be left over for another season's work.

These five spots were located opposite the southeasterly corner of the New Ontario coal wharf, about 500 feet southeasterly from the Ferry wharf and three within 100 yards of the face of the Government wharf.

Their dimensions were not accurately obtained, but they ranged from about 4 feet square in the first-mentioned place to about 100 feet by 30 feet in the last.

It was again found to be impracticable to fully complete the work laid out, as a shoal which lies some 300 feet south of the west end of the Government wharf, was found to consist of a fairly large area of ledge rock about 20 feet wide by about 50 feet long, instead of consisting of a small point of ledge and a considerable quantity of stones as previously expected. The plant engaged was not suitable for such an extent of rock drilling and blasting, therefore it was decided to remove only the higher spots to within 6 inches of the standard grade and leave its further removal to a future time, when a general deepening of the river channel takes place. This shoal is now reduced to an elevation of 561·5 feet above mean sea level which will give a clearance of nearly a foot to any boat loaded to the draft governed by the lower sill of the Canadian lock.

The material removed consisted generally of loose rock and boulders, but some points of ledge rock were blasted away from spots. The total quantity was 280 cubic yards scow measurement, and it was all deposited in the rear of the Sault Ste. Marie Coal and Wood Company's wharf, thus involving only a few hundred yards of towing.

For the performance of this work a contract with the Sault Ste. Marie Dredging and Construction Company, Limited, dated 15th of August, 1919, was extended. This contract stipulated payment at the rate of $125 per day of ten hours full working time, but provided for deductions in case of lost time, due to stress of weather or breakages. The plant consisted of a derrick scow equipped with a hoisting engine and derrick equipment with grab buckets, rock tongs, chains and such like devices for lifting loose rock and boulders, and it also included a complete diver's equipment. The rate of hire included the wages of the crew, fuel and every other expense.

Work was commenced June 7 and was suspended on July 8, when the full authorized period of twenty days was covered, and for which the contractor was paid $2,500. The cost of supervision amounting to $481.68, making a total expenditure of $2,981.68 for the work.

THAMES RIVER

Removal of snags and obstructions

The Thames river flows through the city of Chatham, and at a distance of 18½ miles below empties into lake St. Clair.

It is navigable throughout this distance for boats drawing 10 feet, and to Louisville, 7 miles above Chatham, for boats drawing 5 feet of water.

The work of removing snags started July 23 and finished September 20. Some work in clearing up dumps was done afterwards. Approximately 2,100 pieces were removed from the channel between Louisville and mouth of the river. Most of these were placed on the bank and removed from there free of cost by the farmers owning the land upon which the snags were placed. Farmers along the river bank were notified to cease placing brush and refuse in the river. Notices to this effect were also posted.

A snag-lifting plant was rented from George Ray, for which he was paid for plant, self and one man, $12 per day. Departmental outfit was also used. At the close of the season the Government plant was laid up at the lighthouse at the mouth of the Thames river.

The cost of the work was $1,376.63.

Dredging

Departmental dredge Q. and R. *No. 1* was engaged in deepening and widening the entrance channel from August 3 to September 11, removing 31,364 cubic yards scow measurement, sand, silt and clay.

The channel was dredged to 14 feet deep below zero of water gauge, 50 feet wide and 3,100 feet long. Elevation of zero of gauge at the mouth of river is 573·9 feet above M.T.N.Y.

TORONTO

The work being carried on by this department in conjunction with the Toronto Harbour Commission, comprises a general harbour improvement scheme, which includes shore protection for practically the city's whole waterfront, new dockage extending along the north side of the bay, reclamation of industrial areas and dredging where required.

On October 29, 1913, a contract was entered into between the Dominion Government and the Canadian Stewart Company, Limited, for the construction of sections of breakwater and retaining walls, together with dredging to a depth of 24 feet in a proposed ship channel and turning basin.

Under this contract the ship channel, marginal way walls, and a portion of the turning basin substructure were completed and the ship channel dredged to a depth of 24 feet below elevation 245. On the western section, the contractors constructed and placed in position the cribwork in sections A, B, C, R, and a portion of S. The total cost of this work was $2,579,890.11, all under unit prices.

During 1918, owing to war conditions, work on this contract was suspended, and on March 10, 1919, a contract was awarded to Roger Miller & Sons, Limited, of Toronto, for the completion of the turning basin and sections A, B, C, R and S, of the western breakwater, on a cost plus basis. On July 11, 1919, this contract was extended to include the completion of all sections of the breakwater.

It was afterwards found expedient to cancel the original agreement and on August 12, 1920, a new contract was entered into with Roger Miller & Sons, Limited, on a cost plus basis. This contract provides for:—

1. The completion of turning basin and ventilation channel.
2. The completion of sections A, B, C, R and S, of the western breakwater.
3. The construction of sections D, E, F, G, H, I, J, and Q, of the breakwater.
4. The construction of the remaining sections of the breakwater if so authorized by further Order in Council.

Western Section

During the fiscal year 1920-21 the following work has been performed:—

Section A.—380 feet have been capped and 730 feet floored and the entire concrete superstructure placed, completing this section.

Sections B and C.—These sections were completed during 1919-20.

Section R.—The concrete superstructure has been placed over a length of 390 feet, completing this section.

Section S.—The concrete superstructure has been placed over the entire length of 460 feet, completing this section.

In addition to completing sections A, B, C, R, and S, the construction of cribs at Spadina dock to be used in other sections of the breakwater, has been carried on continuously from August, 1920. At the end of the fiscal year, twenty-six 100-feet cribs and twelve 30-feet cribs were completed and one hundred and ninety concrete blocks moulded and stored ready for use during the coming season.

Eastern Section

As in previous years, work in this section has been done in the dry. The water level being maintained at about elevation 240·5 by means of a dam across the ship channel.

3,981 cubic yards of concrete were poured during the season, completing the turning basin and circulating channel walls with the exception of two gaps of approximately 40 feet each which will be poured at a later date. These gaps are at the junctions of the turning basin and ship channel walls.

Material aggregating 50,000 cubic yards has been dredged from the turning basin this season and deposited as backfill.

The following quantities have been placed during the period April 1, 1920, to March 31, 1921:

Dredging deposited as back-fill	50,000 cubic yards
Mass concrete	3,981 " "
Bolts, nuts and washers	8,923 lbs.
Upper waling (B.C. fir)	66,992 F.B.M.
Reinforcing steel	103,739 lbs.

General

The gross value of the work performed and materials purchased during the fiscal year 1920-21, was $1,021,934.84.

Island Breakwater

A contract was awarded May 26th for approximately $201,840 (unit prices) for the construction of a rubble mound breakwater along the Island shore, 1,700 feet in length with a width on base of 60 feet. Construction was commenced August 18th and was closed down for the season November 27.

The work accomplished consisted in the partial construction of 450 lineal feet of this breakwater, 450 feet of mattrasses 60 feet in width, were placed in position and the rubble stone substructure brought up to water level.

Expenditure for the fiscal year was $36,428.23.

Eastern Channel

Active operations were resumed by the C. S. Boone Dredging and Construction Company, May 25, and their contract for the reconstruction of 400 lineal feet of superstructure of east pier, Eastern channel, was completed and final estimate was given July 10. The work accomplished in this fiscal year consisted in the completion of mass concrete work covering a length of 150 feet with a width of 21 feet and a depth of 2 feet.

Expenditure for the fiscal year was $8,891.66.

Work was commenced November 1 and was completed December 3 in connection with the redecking of the outer 864 lineal feet of west pier, Eastern channel. New stringers were placed in position where required and a three inch decking was laid in position over full width of pier 28 feet.

Plans and specifications were prepared and a contract was awarded the C. S. Boone Dredging and Construction Company on October 12 for the reconstruction in concrete of 466 lineal feet of the superstructure of the east pier, Eastern channel. The amount of the contract (unit prices) is approximately $68,678.50.

The contractors started bringing materials on the ground March 15, but up to the end of the fiscal year no reconstruction work had been carried on.

Western Channel

Work was commenced September 1st and was completed February 15 in connection with repairs to waling and life chains at Western channel. The life chains were taken off the piers and repaired where necessary and then replaced in position.

The broken waling was removed from the structure and holes in concrete walls were repaired.

A crack in the concrete decking of south pier at back of headblock was also repaired.

Expenditure for the fiscal year was $2,029.16.

The work in connection with repairs to derrick scow consisted in raising this scow, which had sunk at anchorage during the winter and afterwards repairing boiler of derrick.

Summary

Island breakwater	$36,428 23
East pier, Eastern channel (Contract 12,410)	8,891 66
Redecking 864 feet West pier, Eastern channel	3,505 16
Repairs to waling, Western channel	2,029 16
Repairs to derrick scow	403 70
East pier, Eastern channel (contract)	2,999 75
Grand total	$54,257 66

WHITBY

Dredging

It was decided to undertake dredging operations in order to provide a clear channel of 14 feet draught below zero of gauge or elevatioin 245 above mean sea-level New York. Commencing at the 14-foot contour line in the lake off the entrance channel to the harbour and at a distance of 350 feet measured southerly from the south end of the west pier, a channel 100 feet in width was dredged northerly to opposite the end of west pier. This channel was dredged parallel to the west pier line produced and the westerly boundary of the dredged area was distant 140 feet easterly from west pier line produced.

From opposite the south end of west pier the dredged channel was continued northerly, parallel to the west pier for a further distance of 550 feet but was reduced in width from 100 feet to 50 feet. The westerly side of this narrowed channel being located 165 feet measured easterly from the west pier.

In the inner harbour two sections were dredged over shoal areas:—

(1) Commencing at a point opposite the northerly end of the concrete work on the east harbour wall and at a distance of 20 feet measured westerly from the edge of the wall, a section 150 feet in length by 50 feet was dredged extending northwesterly in front of Mr. Blow's coal trestle.

(2) Commencing at a point distant 20 feet southerly from the west end of Mr. Watson's wharf, a section was dredged in front of the coal shed and elevators covering a length of 240 feet by an average width of 60 feet.

The entire improvement was carried out by the C. S. Boone Dredging and Construction Company whose contract price was 64½ cents per cubic yard, place measurement.

The company commenced work with the dredge *Meade* on September 3, and stopped work to proceed to Bowmanville on September 22, 1920, payment being made by the department for the removal of 7,138·6 cubic yards at a total cost of $4,604.39.

MANITOBA

BIG GEORGE ISLAND

Dredging

The object of the work was to dredge a harbour of refuge at the Big George Island for the protection of passenger steamers, and fishing fleets operating in the northern waters of lake Winnipeg.

The work of the past season consisted in making one cut in the entrance channel 562 feet long, 45 feet wide with an average cut of 2·9 feet.

This work was a continuation of the work carried on in the years 1916 and 1917. A harbour 500 by 300 feet was proposed with an entrance channel 80 feet wide. The entrance channel is now completed for a draft of 8 feet and a section of harbour approximately 150 feet by 80 feet to the full depth required. A revision of the plans

for this work has been made reducing the harbour to 325 feet by 250 feet with the expectation that the whole harbour will be completed during the season of 1921 instead of still requiring two years work.

The material removed was a very stiff hard pan containing many large boulders.

The quantity removed was 2,728 cubic yards place measure.

P. W. D. Dredge *No. 204* was employed from August 18 to October 14.

DAUPHIN RIVER

This work consisted in building a crib wharf for the use of the Naval Service Department in connection with the fish hatchery.

The following work was carried out: Repairing earth embankment in approach, rebuilding old crib dock from the waterline up and the building of a new crib at an angle to the old wharf of an approximate length of 95 feet.

Expenditure for the fiscal year was $7,923.87.

DELTA

Protection work was constructed to stop erosion of the bank of the channel dredged by the department some years ago, from Lake Manitoba inland to a large slough. It consists of a timber wall, round piles are driven at five-foot centres and to the round piles is attached a round timber waling which acted as a guide for driving sheet piling. Only 106 feet of sheet piling was driven during the past season and the sheet piling was attached to the round piling horizontally, giving a wall approximately five feet high; the total length of the work was 469 feet.

All of the sheet piling could not be driven, but what was driven gives protection until the work can be completed.

Expenditure for the fiscal year was $3,543.67.

HECLA

This work consisted in building a pile trestle wharf and approach of a total length of 208 feet.

The outer 80 feet was built 20 feet wide and the remainder 12 feet wide; bents in the narrow section consisted of three round piles and in the wider section of five; piles were capped with 12 by 12 inch caps; stringers are 6 by 12 inches, and the flooring is of 3 inch plank.

The outer two bents are close-faced piling and are connected at the outside by close-faced round piling to form a bay which was filled with stone.

Expenditure for the fiscal year was $3,735.96.

KILLARNEY

Work consisted in building a round and sheet pile dam backed with earth in the form of three sides of a rectangle; the fourth side is the embankment of the public road. The dam encloses a bridge built by the department through which the outlet from Killarney lake passes.

The dam contains a spillway with stop-logs to govern the level of the lake and a fishway to enable fish to reach the upper level. The remainder of the work consists in widening the bottom of the cut at the east end of the lake to enable the spring flood to pass off more readily.

Expenditure during the fiscal year was $1,143.59.

LOCKPORT

Dredging

The object of this work was to remove river silt gathered in the north entrance to the lock at St. Andrews dam in the Red river.

One cut was made 405 feet long by 40 feet wide, with an average cut of 3·7 feet.

The amount of material removed was 2,253 cubic yards scow measurement consisting of river silt.

The cost of the work was $2,190.18 or a cost per cubic yard of 97·21 cents.

P.W.D. dredge *No. 205* was employed from June 3 to June 11.

RED RIVER

Works at the mouth of the Red river protects the channel from the river out into Lake Winnipeg, and consists of two parallel walls 300 feet apart and built of round and sheet piling. Considerable damage occurs each year from storms and ice and necessitates annual repairs.

During the past summer, material was purchased with the intention of executing repairs after the formation of the ice in the winter, but in the fall, additional portions of the work were carried away and insufficient material was available to cover the old and additional repairs required and no work was undertaken.

A barge load of stone from Winuipeg was caught at the freezing of the river and in procuring its safety and unloading it, and the purchase of material for repairs cost $8,642.96.

Dredging

The object of the work was the maintaining of the channel from the mouth of the Red River into Lake Winnipeg.

The work consisted of one cut 2,843 feet long, 130 feet wide with an average cut of 3.9 feet.

The quantity of material removed was 62,824 cubic yards place measure consisting of river silt and clay.

The cost of the work was $7,980.10, or a cost per cubic yard of 14.82.

P.W.D. dredge *No. 201* was employed from June 3 to September 3.

Sugar Island

The object of this work was to remove a middle ground which forms on the downstream side of Sugar island. This middle ground has been the cause of ice-jams which have caused severe floods in the town of Selkirk.

The work consisted of one cut 2,330 feet long, 150 feet wide with an average cut of 4.9 feet.

The quantity of mateial removed was 62,890 cubic yards place measure consisting of river silt and clay.

The cost of the work was $8,601.94 or a cost per cubic yard of 13.67 cents.

P.W.D. *No. 201* was employed from September 4 to October 28.

ST. ANDREWS

Repairing road and grading bank

The bank of the Red river in front of the departmental property at St. Andrews lock and dam has given considerable trouble; it was built up to a definite slope at the time of construction of the dam but gave way, carrying with it about one-half the public highway and presenting an opportunity for possibly a fatal accident.

During the past fiscal year, a timber wall of round piles and plank was constructed at the crest of the slope, the bank was then graded and the road replaced. At the bottom of the slope, an earth embankment was built to take care of the horizontal thrust of the earth.

Expenditure for the fiscal year was $4,627.15.

SELKIRK

Work consisted in replacing the southerly extremity of the wharf with a solid crib filled with stone and protected by a steel plate, and in strengthening sheet piling in other sections of the wharf.

Ice carried by the spring flood destroyed the exposed and upstream end of the wharf requiring its entire replacement. In the old sections of the wharf, the sheet piling in the face had come loose and required strengthening.

Extensive repairs are required as sections of the wharf are old and badly deteriorated.

Expenditure for the fiscal year was $2,910.44.

THE PAS

During the fiscal year, 1920, a contract was let for the construction of a pile trestle wharf faced with sheet piling to be built for the sum of $7,511.15.

The wharf has a frontage of 200 feet on the river parallel with the shore; then 100 feet at an angle of 45 degrees, thence at right angles to the wharf about 40 feet.

As soon as the flood in the Saskatchewan river had subsided, the work was proceeded with and completed at a cost of $9,406.18.

Dredging

The object of this work was to dredge an approach to and a berth beside the departmental wharf.

The work consisted of one cut 2,257 feet long, 25 feet wide with an average cut of 9.2 feet.

This cut is the first of four cuts to be made to give a channel 100 feet wide.

The material removed amounted to 17,400 cubic yards scow measure consisting of hard pan and boulders.

The cost of the work was $14,108.16 giving a cost per cubic yard of 81.08 cents.

P.W.D. dredge *No. 208* was employed from June 4 to October 2.

WINNIPEG

Dredging

The object of this work was to dredge berths beside the wharf in the city of Winnipeg.

The dimensions of the work were as follows:—

Brown, Rutherford. . . . . 434 by 40 by 5·6 feet.
Lake Winnipeg Shipping Company. . . . 118 by 40 by 5·6 feet.
River Avenue. . . . . .1,128 by 40 by 5·6 feet.

The quantity of material removed amounted to 14,065 cubic yards scow measure consisting of mud and clay.

The cost of the work was $8,380.03, or a cost per cubic yard of 59.58 cents.

P.W.D. dredge *No. 205* was employed from July 22 to September 23.

WINNIPEG BEACH

Dredging

The object of this work was to provide an approach to and berth beside the Canadian Pacific Railway Company's wharf.

The total length of cut was 972 by 40 feet wide with an average cut of 6 feet.

The quantity of material removed was 8,689 cubic yards scow measurement, consisting of stiff clay.

The cost of the work was $4,158.31, or a cost per cubic yard of 47·86 cents.

P.W.D. dredge *No. 205* was employed from June 12 to July 22.

WINNIPEGOSIS

Dredging

The object of this work was to maintain the channel in the Mossy river and from the mouth of this river out into Lake Winnipegosis.

The total length of cut was 2,170 feet by 26 feet wide with an average cut of 2·3 feet.

The quantity removed was 8,585 cubic yards, scow measure, consisting of clay and river silt.

P.W.D. dredge *No. 210* was employed from June 4 to September 13.

BRITISH COLUMBIA

CAMPBELL RIVER

Campbell River is a settlement on the east coast of Vancouver island, about 170 miles from Victoria.

Extensive repairs were required to the wharf, consisting of the renewal of the fender piles and additional creosoted brace and bearing piles and renewal of a portion of the superstructure. The approach 517 by 16 feet was reconstructed, including four trusses to allow the passage of driftwood with spans 52 feet centre to centre of piers, which are of creosoted timbers and rock filled. A new float 39½ by 18 feet was provided and moored with six creosoted mooring piles and the gangway 32¾ by 4 feet was repaired, also the adjustable slip. Log cribbing was built at the shore end of the approach.

The contract for the work was let to Mr. W. Greenlees, contractor, Vancouver, B.C., and was on an unit basis, amounting to approximately $20,991.89. Extras were subsequently authorized amounting to $1,120. Work was commenced in October, 1920, and was completed during March, 1921, the total amount expended was $22,794.14.

CHEMAINUS

Dredging

The small town of Chemainus is on the east coast of Vancouver island, 52 miles north of Victoria by Esquimalt and Nanaimo railway.

Silting up having taken place fronting the loading wharf, which is used by ocean-going vessels loading for the export trade, the Department was requested to provide additional depth and an area approximately 370 feet long by 50 wide was dredged to a minimum depth of 30 feet at L.W.O.S.T. and an average depth of 32 feet at L.W.O.S.T. The nature of material consisted of sand, clay and silt. The work was performed by departmental dredge *Ajax*, in the interval February 4-February 17, 1921. The dredge removed 3,666 cubic yards, scow measurement, of material from the area fronting the loading wharf.

The dredge worked in addition two days before leaving at the foot of the log slip, removing 2,711 cubic yards, scow measurement of sand, silt and mill refuse.

CHURCHOUSE

A float and approach was built during the fiscal year 1913-14. Owing to heavy freight, etc., passing over it, and the destructive work of teredos, the structure had to be replaced by a new one.

The new float and approach was built by day labour October 27 to November 8 last. This is larger and of heavier construction than the old one, and should prove to be more durable.

Float, 36 by 50 feet; approach, 350 by 6 feet, and anchorage is by boom-stick stiff legs, cable, etc.

Expenditure for fiscal year is $2,398.31.

COLUMBIA RIVER

Below Burton

During the high water flow of the summer of 1920, approximately 750 feet of mattrass protection below Burton was damaged, having slipped off the bank down on the comparatively level bed of the river; apparently it had torn away from the mooring cables through undermining and weight of rock, and it remained at the base of the slope forming a protection against further undermining.

Two other pieces of mattrass immediately above and below the slipped portion had also slightly moved, and to prevent the possible loss of these at the next high water repairs were made to the damaged portions during low water, and to March 31, new mattrasses were built aggregating 30,800 square feet at a cost of $6,891.47.

Above Arrowhead

Work comprised the removal of approximately 25 snags from the river channel between Arrowhead and 16 mile, and the clearing of trees, stumps and debris from off the wing dam at Arrowhead.

Narrows

That portion of the Columbia river between the Upper and Lower Arrow lakes is known as the Narrows, and is about 20 miles in length. During the season 1920-21, the departmental dredge *No. 311* was employed, completing the navigable channel from opposite Cottonwood point, Columbia River narrows, westerly through a heavy sand and gravel bar to the head of the Lower Arrow lake; in deepening the navigable channel at Two Beacon bar; in cleaning out and deepening the newly-dredged channel at Cottonwood point; and in making a new cut across the point southwest from the Cottonwood Point channel.

Two Beacon Bar

The navigable channel of the Columbia river, at Two Beacon Bar crossing, had been shoaled by the deposit of fine silt and sand to an extent that steamers navigating it frequently touched the channel bottom at the low water stage of the river.

To deepen and straighten this crossing departmental dredge *No. 311* was towed to Two Beacon bar September 22, 1920. Dredging began October 21st and was completed December 3. During this period, a channel 2,900 feet long and 70 feet wide was dredged to an average depth of 7 feet at low water. The material, amounting to 25,775 cubic yards of sand, silt and clay, was all overcast and 2,350 cubic yards of this amount was handled the second time.

Cottonwood Point

Due to the impossibility of maintaining permanently the old channel at the lower end of the Columbia River narrows in a navigable condition, it was deemed advisable to create an entirely new and distinct channel from opposite Cottonwood point, through a heavy sand and gravel bar, to the head of the Lower Arrow lake.

Dredge *No. 311* was placed in commission and operations commenced in November, 1919, dredging continuing from that date until operations were discontinued in April, 1920.

The channel established by dredge *No. 311* was 850 feet in length and of an average width of 125 feet, giving a minimum depth of 8 feet at low water. This channel was in excellent condition when dredging was resumed in the fall of 1920.

On December 6, 1920, dredge *No. 311* commenced dredging to remove material deposited during the high water season and operations in and at the head of this channel were continued during two periods, December 6, 1920, to January 28, 1921, and February 7 to March 26, 1921. During this time, 35,800 cubic yards of material, sand, gravel and some rocks, were moved, 4,050 cubic yards of which were overcast the second time, and 6,345 cubic yards of which were overcast, above and parallel to Cottonwood dam. The total yardage handled on this work during the fiscal year 1920-21 was 45,695, at a cost of $10,100.88.

Breaks in the mattrassing have been repaired and when Cottonwood dam is brought to above the low water level, there should be no further serious silting effect in the new channel, which can be considered a permanent improvement.

Shoal Point

South and west from the mouth of the new chanel at Cottonwood point, the shoal point extending westerly from the lower end of large gravel bar, had been considerably increased in extent by the deposit of material washed from the large dumps which were left on either side of the channel in the spring of 1920. The encroachment of this shoal toward the west shore narrowed the steamboat channel to such an extent as to make navigation very difficult with any appreciable wind.

Dredge *No. 311* commenced dredging on the point of this shoal January 29 and between then and February 5, 1921, removed 6,830 cubic yards of material, 2,830 yards of which were overcast twice. A cut 360 feet long by 140 feet wide was made, giving a minimum depth of 7 feet of water in the channel at low water. Cost of work $970.90.

COTTONWOOD DAM, BURTON

To assist in training the water of the Columbia river through the new channel dredged opposite Cottonwood point, and to prevent much flow through the old channel at low water stage it was considered advisable to construct a low water dam across the old channel from Cottonwood point to the bar through which the new channel has been established. This dam will insure sufficient water in the new channel for navigation during the low water season and will prevent a dividing of the water into two channels which would cause heavy material in transit down the river to be deposited at and near the point of separation with a resultant silting up of both channels; it will also serve the purposes of forming a basin of comparatively still water in the old channel below the dam, which will serve as a settling basin in which the material carried down the river and over the dam will deposit, thus blocking the old channel permanently, and assisting in the maintenance of the new channel as well as preventing this material from being carried down and deposited below the junction of the old and new channels.

Authority to proceed with the construction of a rock and brush dam was received and the work was completed on April 30, 1920.

The dam as constructed is 430 feet long, composed of a mat of brush fascines, fourteen to twenty feet in length, laid longitudinally with the stream, and connected by No. 9 galvanized wire.

This mat is held in position on the river bed by 420 cubic yards of heavy rock. The quantity of brush used amounted to 700 bundles, and the total cost of the work was $3,639.07.

Three hundred feet of dam had been built during the fiscal year 1919-20 at a cost of $2,815.41, and the balance, one hundred and thirty-feet, was constrncted during the fiscal year 1920-21, at a cost of $823.46.

After construction was completed, settlement took place, and authority was given to expend the balance of the appropriation in raising the crest of the dam to above the low water level.

Dredge *311*, during her operations cleaning and widening the new channel at Cottonwood point, overcast 6,345 cubic yards of gravel, from the channel and deposited it upstream from and parallel to the dam. This material during the coming summer will be washed into the hole above the dam and what is carried over the dam will settle in the old channel behind it, thus aiding in the silting up of the old channel, and reinforcing the dam.

FRASER RIVER

Removal of snags and obstructions in upper navigable channel of Lower Fraser River

The object of this work is to patrol the Fraser river during the freshet and remove snags and trees that are brought down by the flood and lodge on the bars, forming jams. In all, 548 snags and 47 large and small log-jams were removed; this work was started on June 1, and completed on August 7, at a cost of $2,535.78.

This is a continuation of the work which was started in 1919-20, and it is proposed to resume work again this season. The Chilliwack Municipal Council have done some work each winter during the low water period, in cutting up and burning the log jams and snags in the river. The two operations by the Municipal Council and Dominion Government have had the effect of clearing the river of snags and reducing the danger of large log jams forming and changing the channel of the river, thereby lessening the damage done to the banks by erosion.

North Arm

The Bucklin Lumber Company applied for some dredging in their log pond, in front of their mill at New Westminster, on the north arm of the Fraser river, and the dredge *King Edward* commenced work November 1, and completed it November 12, 1920. 11,985 cubic yards of sand and silt were removed from the log pond and channel leading to it.

The area dredged over was 54,500 square feet, and the average depth of cut was 6·19 feet, and the average depth made was 9.44 feet at low tide, and the total amount of material removed was 13,865 cubic yards, place measurement, as found by survey.

The whole of the area as originally laid out was not dredged over, as the Bucklin Lumber Company were satisfied when the dredging was completed, and they were charged $3,000 for ten days work of the dredge at $300 a day which has been paid.

Celtic Cannery

The British Columbia Packers' Association applied to the department for some dredging in front of the Celtic Cannery, to 5 feet at low tide, to enable fishing boats to get to the cannery at all stages of the tide, and the dredge *King Edward* started June 14, 1920, and completed this work June 25.

13,870 cubic yards place measurement were removed, the average length of the cut was 700 feet by 107 feet, and average depth was 5 feet.

North Arm Channel

The object of this dredging is to complete a channel with 10 feet at low tide in the North Arm of the Fraser river from the Gulf of Georgia to New West-

minster to assist navigation on the North Arm, which consists principally in towing logs up the river to the mills at New Westminster, and those situated on the North Arm.

From Eburne to the mouth of the North Arm the channel was dredged by the Pacific Construction Company under contract, and the *King Edward* commenced work on Cut No. 1 during the last fiscal year.

The total length of channel dredged in Cuts Nos. 1, 2, 3, was 13,230 feet, including 1,600 feet which was re-dredged on account of silting. These cuts are 150 feet wide, and a total of 406,090 cubic yards, place measurement, of sand and silt was removed.

Cut No. 1 is completed with the exception of a small portion at the upper end, which, together with about three-quarters of Cut No. 2 was left to be done during the freshet, as the river is very narrow there and it was dangerous to work when the logs were being towed up the river. Cut No. 3 was started, and will be completed about the time the freshet starts. The work on the North Arm will probably be completed this year.

Eburne

The work performed this fiscal year consisted in a cut 4,520 feet long, 150 wide to 10 feet at low tide, the object being to give a channel 10 feet at low tide from the Gulf of Georgia to Eburne, which is now completed. The material removed was sand and silt, and was deposited on the jetty on the south side of the channel. The work was done by the Pacific Construction Company, under their contract let in the fiscal year 1919-20, to dredge a channel from Eburne to the 300 foot channel dredged through the Sandheads in 1916, 940,777 cubic yards were removed in the fiscal year 1919-20. On March 20, 1920, a further 200,000 yards was authorized at the same rate per cubic yard, viz., 15½ cents, and in all 207,830 cubic yards, place measurement, was removed, at a cost of $32,213.65.

The work done during the fiscal year was started on April 9, and completed on May 17, 1920.

North Arm Lumber Company

The North Arm Lumber Company applied for and agreed to pay for the dredging of their log pond in front of the mill on the North Arm, at the foot of Ontario street, to 5 feet at low tide.

The cut was 145 feet long, by 100 wide, the average depth of cut being 6½ feet, and the amount removed 3,490 cubic yards, place measurement.

This work was done on September 9 and 10, 1920.

North Arm Entrance

The object of this work was to deepen the entrance to the mouth of the North Arm of the Fraser river to ten feet at low tide. The cut was made about 1,200 feet long, and 300 wide. This portion of the channel had shoaled up to 5 feet at low tide; it was originally dredged in 1916 to 10 feet at low tide.

It was found that the channel had silted up at the outer end of the jetty, which was built in 1916, and the dredging that was done this year extended about 400 feet further into the Gulf of Georgia than the original channel. This shows that the Sandheads there are advancing, but the conditions there are different from the mouth of the main channel where the depth immediately beyond the channel increases very quickly.

The survey after the work was completed shows that the quantity removed was 33,333 cubic yards, place measurement, which was sand, silt and clay.

Ladner

This work was asked for by the Ladner Board of Trade to enable freight boats and the British Columbia Government ferry to land at the wharves at all stages of the tide. 10 feet at low tide was asked for in the channel, with 15 feet at low tide in front of the Brackman-Ker wharves.

The dredge *King Edward* commenced work January 25, and work was completed February 23, 1921. The cut was 2,100 feet long, 150 feet wide and average depth of 4½ feet. The amount of sand and silt removed was 52,500 cubic yards, ascertained by survey.

Sandheads

The object of this work is to maintain at least 26 feet of water, with a 12 foot tide, through the Sandheads and the new channel, or Woodwards cut, a distance of about 6½ miles; dredging was done at various places by the departmental dredge *Fruhling*, over a distance of about 15,000 feet.

Location	Quantity Cubic yards
New Channel	306,024
Buoys 15-17	137,964
" 9-11	54,355
" 9	39,944
" 7- 9	46,528
" 5- 7	177,470
" 3- 5	25,344
" 1- 3	74,634
Steveston Channel	2,009
Total	864,272 hopper msmt.

The material removed was sand and silt. The departmental dredge *Fruhling* was engaged all the year on this work, with the exception of the period between November 16 and December 3, 1920, when the dredge was engaged in deepening the entrance to the North Arm of the Fraser river.

Removal of Submerged Dam (Below Steveston)

The object of this work is to remove the submerged dam in the Main Channel of the Fraser river, about 1½ miles below Steveston, situated in the centre of the channel between Buoys Nos. 16 and 18.

The dredge *Ajax* commenced work on March 30, and only two days work was done in this fiscal year. A cut 80 feet long and 70 wide was made to 20 feet at low tide, the average depth of cut was 3.85 feet, and 800 cubic yards, place measurement, were removed.

This work was not completed at the end of the fiscal year, as the dredge only worked two days; but the work is being continued during the present fiscal year. The dam is 3,525 feet long, and in all there is about 77,400 cubic yards of rock, brush and sand, to be removed.

Removal of Wing Dam

The object of this work was to remove the outer 400 feet of the old wing dam, at the upper end of the new channel just above Steveston, to a depth of 18 feet at low tide.

The length of the cut was 400 feet, width 40, and average depth of cut 5 feet. The material removed was old brush mattrasses, rock and sand, and 2,963 cubic yards were found to have been removed when a survey was made after the work was completed.

The work was started April 27, and was completed April 30, 1920.

GRAHAM'S LANDING

Graham's Landing is situated on the Columbia river, between the Upper and Lower Arrow lakes.

On December 15, 1920, a contract was entered into for the construction of a floating wharf, 40 by 80 feet, with a floating approach 192 feet long, the approach to rest on a pile trestle 176 by 16 feet together with a sheer or fending boom 450 feet long, and two pieces of mattrassing 60 by 170 and 60 by 160 feet respectively, a shed 12 by 16 feet, also to be built on the main float. The contract price for this work was $13,832.

The work was proceeded with during the low water season, 1920-21, and on March 31, the main float approach, approach-trestle, mattrass, and 50 per cent of the sheer boom had been completed. The gross cost of the work to that date was $12,964.25.

HOLLYBURN

The work of constructing a ramp and dredging was performed under contract dated November 2, 1920. Total amount of contract was $6,195.59, to which was added $37.50 as extras for 25 cubic yards of filling at the inner end of the approach.

The completed ramp, built on pile bents, is 150 feet long, and 24 feet wide. Slip area dredged alongside ramp is 120 feet long, and 50 feet wide, some 3,257 cubic yards of clay, gravel, etc., being removed. Repairs to the existing breakwater and a new and strengthened sea end to it was included in the contract.

Expenditure for the fiscal year is $6,353.84.

HURST ISLAND

A float was built by day labour, in the period March 21 to 31, 1921, and is 24 by 30 feet and anchored in position with boom sticks and chains fastened to eyebolts, which were let into rocks on each side of a small bay on Hurst Island.

Expenditure for the fiscal year is $798.48.

JERICHO BEACH (AIR STATION)

A floating landing, 26 by 40 feet, with a floating approach thereto, 218 by 6 feet, was built by day labour. Work was started August 13, and finally completed October 8 last.

In addition to the above, there were six works carried out under agreement by different contractors. These are detailed as follows:—

(1) Work of filling in the site of the station with sand pumped from English Bay was performed by the Pacific Construction Company, at a rate of 35 cents per cubic yard. The total yardage deposited was 16,557, and cost $5,749.15 Work was started June 25, and completed July 3, 1920.

(2) The construction of a concrete platform, 300 by 75 feet, was done by Messrs. Ambrose and Aiken, for the lump sum of $4,950, to which were added extras for $683.10, total of $5,633.10. This work was put in hand July 5, and completed July 31, 1920.

(3) The work of constructing a plank roadway through the station grounds to Imperial street was performed by Wm. Greenlees, for the lump sum of $4,285. The roadway, 795 feet long by 10 feet wide was built in the period July 12th to August 4, 1920.

(4) A landing slipway, leading to 4 feet below L.W. level, was built for the use of planes, 210 by 20 feet, of creosoted timber, by Wm. Greenless, for the lump sum of $5,878.58. Work was put in hand July 14, and completed August 4, 1920.

(5) On September 1, work was started on the construction of a 70 by 20-foot office and garage. Messrs. Sloan and Harrison performed the work for a lump sum of $5,000, plus $49.50 for extras, or a total of $5,049.50. Building was completed November 16, 1920.

(6) Between September 7 and October 12 last, a water service pipe, etc., was laid from the service main at Imperial street to the station building, a distance of some 1,000 feet. This work was done by Messrs. Weeks & Company, for the lump sum of $2,669.52.

Groynes were built at either end of the station grounds; both groynes were of the single bulkhead timber type, that to the east of the grounds being 125 feet in length, and that to the west, 185 feet. Wm. Greenlees built the groynes for the lump sum of $1,100, paid for by the Air Board, completing the work between March 3, and 26, 1921.

KUSKANOOK

Kuskanook, Kootenay district, is the eastern Kootenay Lake terminus of the trans-Canada highway and transfer facilities were required to handle the volume of expected traffic through this place.

On August 16, 1920, a contract was entered into for the construction of a 40 by 80-foot floating wharf and a 16 by 320-foot floating approach thereto at Kuskanook. Contract price, $7,950. On March 31, 1921, the main float was completed and towed to the future location, and material, except one carload of lumber, was on hand for the completion of the work. Gross amount of progress estimates to that date, $6,912.20.

Prior to the award of this contract the approach was graded at a cost of $132.13.

LYALL HARBOUR AND MORESBY ISLAND

Lyall harbour is situated on Saturna island, in the Gulf islands, 35 miles north-east of Victoria. The wharves at both these places were recently taken over from the Provincial Government and both were in poor condition, entire reconstruction being required in both cases.

Works of reconstruction were commenced in December, 1920, and satisfactorily completed during January, 1921. The amounts expended were: Lyall harbour, $4,998.51; Moresby island, $4,523.91; making a total expenditure for the above works of $9,522.42, including inspection, $264.60.

The new wharf at Lyall harbour is 60 by 30 feet with approach 70 by 16 feet widened at the rear of the wharf, freight shed 12 by 14 feet, slip 19 by 9 feet. The existing float and gangway were secured at the end of the wharf, creosoted piling was used throughout with the exception of the fender piles and horizontal brace log, while the various brace timbers below H.W.L. were treated with Piper's Anti-Teredo Composition.

In the renewal of the wharf at Moresby island the old wharf and approach were removed and a new wharf 30 by 60 feet with approach 131 by 14 feet widened at the rear of the wharf were constructed, with slip 18½ by 9 feet. The old freight-shed was repaired and replaced. Creosoted piles were used in the wharf-head and approach to L.W.L. thence to the shore untreated piles were used. It was found possible to embody a portion of the material from the old wharf in this work.

Temporary repairs to the slip at the old Lyall harbour wharf were carried out by local labour at a cost of $8 prior to its removal.

MAYNE ISLAND

Mayne island is situated on Active pass.

The repairs to this wharf, which was recently taken over from the British Columbia Government, were undertaken by the Fraser River Pile Driving Company,

New Westminster, B.C., under unit price contract. The work consisted of dismantling a portion of the rear of the wharf-head 46 by 40½ feet and renewal of seventeen creosoted bearing piles, ten creosoted brace piles, twenty-four fir fender piles, one fir five-pile corner dolphin and minor renewals to the superstructure in the remaining portion of the wharf-head. Repairs to the approach consisted of two creosoted and eleven fir bearing piles, together with sway bracings. A new float and gangway 24 by 14 feet and 30 by 3½ feet respectively were constructed and moored in position with four creosoted mooring piles. New planks to a width of 8 feet were laid on the old ones along the wharf approach.

The above work was completed during October and November, 1920, at a cost of $4,471.62.

NAAS RIVER

On October 10, 1920, a party started work on further improving the upper reaches of the Naas between mileages 39·5 and 42·5, computing the miles from Kincolith at the mouth of the river; work was stopped on January 28, 1921, and the party was discharged.

During the winter's operations, 2,329 cubic yards of rock was blasted off jutting points of the south side of the river at the canyon to reduce eddies and back currents, and some 50 cubic yards was blasted off in the centre of the channel at the upper end of the canyon; 59 trees along the banks were felled and cut up to prevent them finding their way into the river; snags and several log jams were blown out above Hells Gate, mileage 42, and the materials driven down clear of the canyon. It was proposed to clear further rocks from Hells Gate but the river had, during the freshet of 1920, cleared a new and deep channel through a sandbar to the south. Expenditure during the fiscal year was $9,380.71.

NANAIMO

Dredging

Nanaimo, with a population of 10,000, is on the east coast of Vancouver island.

Representations were made to the Department for the removal of a small rock shoal lying opposite the centre of the Canadian Western Fuel Company's loading wharf, and the *Lobnitz Rock Breaker No. 1* was put into commission for its removal. The work involved the removal of 690 cubic yards, place measurement, of sandstone rock. The rock breaker worked from June 17 to July 17, 1920, reporting 571 cubic yards broken on the small rock area and 122 cubic yards broken on Nicol rock, where work was done when tidal conditions were unfavourable on the former area, making a total of 693 cubic yards.

The departmental dredge *Ajax* was sent to remove the broken rock and worked from July 21-29, 1921, removing 469 cubic yards, scow measurement, of sandstone, 369 cubic yards being removed from the small rock area and 100 cubic yards from Nicol rock, a minimum depth of 29 feet at low water being given, on the former area.

NARAMATA

The contract for the construction of a new wharf was awarded November 3, 1919, to be 48 by 182 feet with a warehouse 20 by 100 feet, was completed April 16, 1920, at a cost of $8,133.17.

OKANAGAN RIVER

Penticton

For the construction of a control dam on the river at the foot of Okanagan lake, Penticton, work was continued from last fiscal year during the period from April 1 to October 31, 1920.

The control dam consists of a main portion across the river 220 feet long made up of a timber apron and rock-filled cribs on piling; the openings between cribs are closed by stop-logs, and there are two sheet-piled wing walls 60 and 65 feet long respectively.

During the fiscal year, the cribs and piers were raised to their full height above the foundation, additional sheet piling was driven in the upstream face, the east wing was completed and rock and gravel were dumped into the river bed above the dam.

PORT ALBERNI

Port Alberni is situated at the head of the Alberni canal, an inlet of the Pacific ocean.

Work was carried out by day labour, and was commenced early in March, 1920, the amount expended to March 31 being $307.54. The completed work consists of floats having a total length of 412 feet, 6 feet in width paralleling the float constructed by the city at the end of Bird street, and having a waterway 100 feet wide in between.

An expenditure of $1,993.40 was made during the present fiscal year, and the total expenditure being $2,300.94.

POWELL RIVER

The public wharf was enlarged from 46 by 70 feet, to a length of 340 feet, with greatest width of 60 feet, and least width of 40 feet, a portion of the old approach forming a part of the new wharf head.

The work was performed under contract by the Fraser River Pile Driving Company, during the period May 5 to June 21, 1920.

The whole structure rests on, or abuts, the public breakwater, and is supported on creosoted pile bents.

In addition to the above, some minor work was carried out on the wharf at a later date. Several bearing posts having been knocked out by drifting logs, etc., a boom of logs (400 lineal feet) was placed around the wharf and secured thereto with boom chains. This work was performed by day labour in the period March 6 to 9, at a cost of $353.09.

Expenditure for the fiscal year is $10,192.90.

Dredging

The object of this work was to give a depth of 22 feet at low tide along the face of the wharf at Powell river. The cut was 356 feet long, average width of 80, and average depth of cut 11·6 feet, giving 22 feet of water at low tide.

The work was started by the departmental dredge *Ajax* May 5, and completed on May 28, 1920, and 12,326 cubic yards, place measurement, of clay, hardpan, and boulders were removed and dumped about half a mile out to sea in deep water.

PRINCE RUPERT

Quarantine Station

The pile bent foot-bridge connecting the small island on which the hospital is situated with the station proper was repaired by removing the hand railing and decking and driving two creosoted bearing piles under each of 54 bents of the bridge, and bracing each bent with creosoted sway bracing. The sound untreated braces removed from the bents were used to replace broken or rotten plank.

Work was done by day labour between August 11 and September 16, 1920, and the expenditure was $4,499.37.

Protection Work

Protecting the terraced lawns about the hospital from wave action at high tides was carried out by day labour; trenches were dug on either side of the old revetment walls to get longitudinal planks well below the normal ground surface; 3 by 12-inch planking was placed horizontally throughout 800 lineal feet of the wall on both sides of the supporting piles and posts, and the intervening space filled with sand and shingle. Work was done between October 12 and 20, 1920, and the cost was $588.68.

Wharf

Repairs to the wharf, Digby island, consisted in the construction of a creosoted lumber stairway 44 feet long, from decking level to extreme low water level; the driving of three creosoted bearing piles under the wharf, and the supplying and placing of longitudinal creosoted logs under the fender piles along the 500-foot face of the wharf.

Work was done by day labour between September 17 and October 11, 1920, and the expenditure was $2,545.52.

PRINCESS CREEK

Princess creek, Kootenay district, approximately three miles north from Ainsworth, is the logical terminal and ore milling point for numerous mines operating in the vicinity.

On September 27, 1920, a contract was entered into for the construction of a 40 by 80-foot floating wharf and a 16 by 208-foot floating approach thereto, at Princess creek. Contract price $7,980. This work was completed on February 16, 1921.

PROCTER

Procter, Kootenay District, is situated on the West arm of Kootenay lake, about 19 miles east from Nelson.

On October 22, 1920, a contract was entered into with Messrs. Cogle & Leake for the construction of a 40 by 80-foot floating wharf and a 16 by 240-foot floating approach thereto. Contract price $7,940. Construction commenced immediately and work was completed January 8, 1921. In addition, a 12 by 16-foot waiting shed was built by the same firm for the sum of $200.

SHOAL PASSAGE

Dredging

The object of this work was to deepen Shoal passage, which is the western entrance to Howe sound.

The dredge *Ajax* started work November 1, 1920, and completed it January 29, 1921. The cut made was 785 feet long, 300 wide, to 15 feet at low tide; the average depth of the cut was 4·38 feet, and the material removed was gravel, clay and boulders. The dredge returns, scow measurement, show that 39,910 cubic yards of material was removed.

SIDNEY

Dredging

Sidney is a small town at the northeast end of the Saanich peninsula, about 18 miles from Victoria.

Authorization was granted to provide a channel to the loading wharf and the departmental dredge *Ajax* was sent for this purpose. The area dredged gives an

approach channel 110 feet wide leading to a basin of irregular shape approximately 140 by 120 feet, which was dredged to give a depth of 10 feet at low water, with the exception of a small portion fronting the drag-saw float where the required depth could not be obtained owing to the contracted area in which the dredge had to work. 9,658 cubic yards, scow measurement, of sand, clay, boulders and mill refuse were removed, including 1,245 cubic yards castover. The work was one of some difficulty owing to the contracted nature of the area to be dredged and the depth to which the dredging was done, namely 10 feet below low water, the minimum working depth of the *Ajax* being 14 feet, assistance of the tides was thus required and the work had to be regulated accordingly.

SOUTH GABRIOLA ISLAND

Gabriola island is situated in the Gulf of Georgia, opposite to Nanaimo.

The tender of Mr. D. O. Shook, Vancouver, amounting to approximately $3,152.08, was accepted for the construction of a wharf at the site of the former Provincial Government wharf, in order to allow the C.P.R.S.S. *Island Princess* to call at Gabriola Island.

The work was commenced early in March and on the 31st March, 1921, about 60 per cent of the work was completed, the amount expended to that date being $2,029.59, including inspector's wages, etc. This wharf was completed about the middle of April, 1921, and will measure 60 by 40 feet with an approach 55 by 16 feet, a shed 16 by 20 feet, a float 24 by 12 feet, a gangway 30 by 4 feet and landing 12 by 6 feet.

STEWART

A new wharf, springing from the public highway between Stewart and Hyder, Alaska, was built to replace the old wharf at this point which had a pile bent approach over a mile in length, which the silting action of Bear river made it necessary to still further extend to deep water or build a new wharf on a new site. The new wharf is 100 by 50 feet with an approach thereto 200 by 20 feet and supported on creosoted piling; was built by contract at unit prices for the materials used in the structure, and the amount paid the contractor was $28,843.30.

Work was started June 11 and completed August 27, 1920.

Old Wharf

Under agreement, two 6-pile dolphins were driven in line with the face of the old wharf for the lump sum of $2,065.

Work was done between April 27 and 30, 1920.

STIKINE RIVER

Improvements were made to the navigable channel between the international boundary of British Columbia and Alaska, and the settlement of Telegraph creek, a distance of some 120 miles. Tops of outcropping rocks and reefs along the channel were blasted off, lining cables were supplied and fixed at two of the riffles most difficult to navigate and a large number of stumps, trees and snags were blasted out of the river.

Work was done during the two low water periods of April 1 to May 24 and September 1 to 30, 1920, and the expenditure was $9,069.99.

THETIS ISLAND

Thetis island is a farming settlement in the Gulf of Georgia, 50 miles from Victoria.

This wharf was recently taken over from the British Columbia Government and had to be entirely reconstructed, the dimensions of the new wharf being 90 by 40 feet

and approach 264 by 16 feet widened at the rear of the wharf. Creosoted piles were used in the wharf-head and approach to L.W.L. with the exception of the fender piles. Owing to the absence of penetration for piling in the approach, concrete footings were necessary. Landing steps for launches were provided at the back of the wharf. The contract was awarded to the Vancouver Pile Driving and Contracting Company, Vancouver, B.C., and was on unit price basis amounting to approximately $9,136.91. and construction was commenced October 29 and completed December 6, 1920. The total amount expended was $9,366.94.

VANCOUVER

The Vancouver Harbour Commissioners applied for the use of the departmental dredge *King Edward* to perform some filling at the shore end of the new Ballantyne pier, and authority was granted to do this work. The Harbour Commissioners paying for the dredge and plant at the rate of $340 per working day, and a cheque was received for $17,255 for 50¾ days' work; during this time, 70,000 cubic yards of sand and gravel was pumped into the fill.

The work was started November 17, 1920, and was completed January 17, 1921.

VICTORIA

After negotiations extending over many years it was recently decided to replace the old swing bridge used by the Esquimalt and Nanaimo Railway crossing Victoria harbour, by a new and modern bridge having a single leaf bascule with plate girder approach spans for both rail and highway purposes having a 30-foot roadway, both steam and street railway tracks, and 8-foot sidewalk.

A clear channel at the bascule opening 120 feet in width is to be given with a clearance of 29 feet above low water mark.

In order to improve the approach to the new bascule opening of the above bridge from the south, authorization was received for the removal of rock from Discovery rock which is at the southwesterly side of the bridge site and also the further removal of rock from Hospital rock to afford additional space for Canadian Pacific Railway vessels when backing and turning near this point when leaving the harbour. The estimated quantities of material to be removed are as follows:—

Discovery Rock.—Estimated rock (gneiss), 2,980 cubic yards, place measurement.
Estimated earth, 963 cubic yards, place measurement.
Hospital Rock.—Estimated rock (gneiss), 1,274 cubic yards, place measurement.

The departmental drill plant was put in commission and drilling operations commenced at the northerly end of Discovery rock, February 16, 1921, but on 17th the drill platform was partially wrecked and submerged by a boom of logs colliding with same. This together with additional repairs delayed the work.

The work accomplished from the inception of the work to the end of the fiscal year was as follows:—

Surface of rock drilled over, 1,472 square feet.
Estimated quantity blasted, 78 cubic yards.
Number of holes drilled, 83.
Number of feet drilled, 734 feet.
Hours on duty, 460.
Hours actual drilling, 257.

As a small proportion only of the work had been accomplished to March 31, full and final particulars of same will be contained in the annual report of dredging operations 1921-22.

WILLIAM HEAD

Quarantine Station

The William Head Quarantine Station is situated in the Juan de Fuca strait, 10 miles from Victoria, where ocean-going vessels report before proceeding to Victoria and Vancouver.

Coal Wharf.—The coal wharf is used for the storage of coal and as a landing for the D.G.S. *Madge,* taking supplies to the quarantine station. These repairs consisted of renewal of all the fenders with creosoted piles and the reconstruction of a portion of the approach 158 by 8 feet and general repairs to the superstructure.

A unit price contract was awarded to Mr. R. Moncrieff, Victoria, who completed the above work in July, 1920, at a cost of $5,894.12.

Main Wharf Dolphin.—Six fir brace piles were renewed in this dolphin, which is near and in line with the front face of the main wharf. The work was executed at a cost of $300 and completed in June, 1920.

Coal and Main Wharves.—A further expenditure was necessary for completing the repairs to the coal wharf by the addition of six creosoted piles and patching, where necessary, the existing copper sheathed piles in the main wharf with Muntz metal. The work was executed during June and July, 1920, at a cost of $223.65 and $204 respectively.

Repairs to Old Water Main from the Quarantine Lake.—Under authority from the chief architect an expenditure of $3,000 was authorized for repairing, for emergency purposes, the 4-inch water supply main from the Quarantine lake to the Quarantine Station, William Head.

The above work was commenced November 8, 1920, and completed February 12, 1921. The above main consists partly of 4-inch cast iron and partly of 4-inch wood-stave pipes. The former being in fair condition, the repairs were confined to the old wood-stave pipes, the whole of which were uncovered and examined and numerous repairs made thereon.

The following work was also done:—

Four hundred and fifty feet of wood stave pipe renewed, 1 new 4-inch gate valve point established and gate valve erected, 1 new blow-off point established, 3 new gate valves for blow-off erected, 3 old gate valves repaired and replaced, 1 new air valve point established, 7 new air valves erected, 1 old air valve repaired and replaced and 7 wooden chambers with padlocks built. All trestles and wood work thoroughly painted. Intake chambers well scoured and cleaned three times during construction.

At the completion of the work the line was tested with the following results:—

Pressure at filter house, 85 pounds; pressure at Quarantine Station office, 80 pounds; pressure at power-house, 70 pounds.

It was found that when the station was supplied from the Quarantine lake through the filter that an ample flow of water could be maintained at the top storey of the first class building when several taps were opened. A fair stream was also obtained from one of the hydrants at a low pressure.

The total cost of the above work was $3,016.01 and was carried out entirely by returned men who did good work.

Repairs to the sluice gate will be necessary at the low summer level of the lake and a 4-inch blow-off could with advantage be installed immediately below the intake chamber in place of the existing 2-inch valve as it is found that the water at the intake chamber gets foul and very dirty in a short time so that these chambers should be cleaned periodically and the 4-inch blow-off above referred to will expedite the emptying of the chamber.

Dredging.—Certain vessels having reported that they touched bottom when berthing at low tide, and additional depth fronting the Coal wharf was required in order to provide turning facilities for the D.G.S. *Madge* which is used for conveying supplies, etc., used by the Quarantine Station authorities.

A contract was awarded to the Pacific Construction Company, Vancouver, involving the removal of the following material: Main wharf, 28,100 cubic yards; Coal wharf, 1,700 cubic yards; total approximately 29,800 cubic yards of sand, clay and boulders at the rate of 48 cents per cubic yard, place measurement.

The above work was carried out by means of a hydraulic dredge working on three 8-hour shifts between July 12 and July 19, 1920. Payment which was made on a place measurement basis from soundings taken before and after the dredging was as follows:—

Main wharf, 25,190 cubic yards at 48c.	$12,091.20
Coal wharf, 1,633 cubic yards at 48c.	783.84
	$12,875.04

A basin 465 by 200 feet dredged to 35 feet at low water has been provided fronting the main wharf, the material consisting of sand, clay, gravel and occasional boulders and an area 88 by 150 feet was dredged to 20 feet at low water fronting the Coal wharf, the material here consisting of sand, clay and gravel.

DREDGING OPERATIONS

Contract Dredging and Dredging by Day Labour, 1920-21

Argyle Sound, N.S.—

C. E. W. Dodwell, district engineer. Day labour.

Class B. Sand, gravel, mud and boulders.

Total expenditure, $500.

Work commenced September 20, 1920; completed October 19, 1920.

Object of work: To provide a cut 8 to 10 feet wide and 2 to 3 feet deep through a bar which obstructs the shorter access to Argyle Sound public wharf. Channel 600 by 7 feet to 10 by 2 feet to 3 feet deep.

Belle River, Ont.—

Under agreement with Windsor Dredging Co. Dredge *Reaume.*

Quantity removed: 2,860 cubic yards, place measurement, at $400 lump sum. Class B.

Total expenditure, $400.

Work commenced June 10, 1920; completed June 12, 1920.

Object of work: To make a cut in Lake St. Clair at Belle river, giving a depth of 5 feet L.W.L.

Bowmanville, Ont.—

Under contract No. 12881, with C. S. Boone Dredging and Construction Co., Limited. Dredge *Meade.*

Quantity removed: 22,151·1 cubic yards, place measurement, at 64 cents per cubic yard. Class B. Sand and clay.

Amount passed for payment, $14,819.26; inspection $225; total expenditure, $15,044.26.

Work commenced September 28, 1920; completed November 20, 1920.

Object of work: To provide a depth of 14 feet by a width of 50 feet between the piers, widening out to 75 feet at the point where the vessels discharge.

Chatham, N.B.—

Under agreement with Miramichi Dredging Co. Dredge *Peter England.*

Quantity removed: 649·2 cubic yards, place measurement, at $1 per cubic yard. Class B. Ballast and mud.

Total expenditure, $649.20.

Work commenced June 8, 1920; completed June 19, 1920.

Object of work: To dredge slips at Chatham and Ferryville for ferry.

Cobourg, Ont.—

Under contract No. 12868 with Frontenac Dredging Co., Limited. Dredge *St. Lawrence.*

Quantity removed: 17,736·74 cubic yards, scow measurement, at 55 cents per cubic yard. Class B. Sand.

Amount passed for payment, $9,755.21; inspection, $202; total expenditure, $9,957.21.

Work commenced August 14, 1920; completed September 22, 1920.

Object of work: Dredging where required in the channel entrance and in the inner harbour to depths of 18 and 20 feet.

Echourie, Que.—

J. T. Bertrand, district engineer. Day labour.

Quantity removed: 240 cubic yards, place measurement. Boulders.

Total expenditure, $297.25.

Work commenced August 16, 1920; completed October 30, 1920.

Object of work: Removal of boulders from the sheltered water between the rock ledge and the shoal at Echourie, Que.

Fourchu, N.S.—

Under agreement with Atlantic Dredging Co. Dredge *Pepperell.*

Quantity removed: 3,402 cubic yards, place measurement, at 45 cents per cubic yard. Class B.

Total expenditure, $1,530.90.

Work commenced June 11, 1921; completed June 17, 1921.

Object of work: Removal of material in overcasting a channel 35 feet wide, 5 feet deep, for a channel across the bar which separates the basin from the main channel.

Lower Fraser River, B.C.—

C. C. Worsfold, district engineer. Day labour.

Total expenditure, $2,536.78.

Object of work: Clearing snags from upper navigable portion of Lower Fraser river.

Fraser River, North Arm—

Under contract No. 12403 (Extension) with Pacific Construction Co., Limited. Dredge *Portland.*

Quantity removed: 207,830 cubic yards, place measurement, at 15½ cents per cubic yard. Class B. Sand.

Amount passed for payment, $32,487.38; inspection, $1,316.34; total expenditure, $33,803.72.

Work commenced April 9, 1920; completed May 17, 1920.

Object of work: Dredging of channel in North Arm, Fraser River, B.C., 10 feet deep, 150 feet wide, below Eburne.

Iberville, Que.—

J. T. Girard, district engineer. Day labour.

Total expenditure, $272.

Work commenced August 13, 1920; completed August 31, 1920.

Object of work: To remove sunken scow in Richelieu river near Iberville, Que.

Jersey Cove, Que.—

J. T. Bertrand, district engineer. Day labour.

Total expenditure, $388.89.

Work commenced September 2, 1920; completed September 15, 1920.

Object of work: To repair platform and remove stone ballast which had scattered and obstructed the landing.

Kincardine, Ont.—

Under agreement with C. S. Boone Dredging and Construction Company, dredge *Kingsford.*

Quantity removed: 3,500 cubic yards, scow measurement, at $1 per cubic yard. Class B. Sand and clay.

Amount passed for payment, $3,500; inspection, $32; total expenditure, $3,532.

Work commenced July 5, 1920; completed July 12, 1920.

Object of work: Removal of a shoal area about 140 feet long in the channel between the piers.

Kingston, Ont.—

Under contract No. 12868 with Frontenac Dredging Company, Limited, dredge *St. Lawrence.*

Quantity removed: 10,000 cubic yards; place measurement at 50 cents per cubic yard. Class B. Silt, mud, stones and clay.

Amount passed for payment, $5,000; inspection, $622.26; total expenditure, $5,622.26.

Work commenced September 28, 1920; suspended for season November 17, 1920.

Object of work: Cleaning up slips along harbour front, and removal of material from basin above La Salle highway bridge on site of old Cataraqui bridge.

Kouchibouguac, N.B.—

Geoffrey Stead, district engineer. Day labour.

Quantity removed: 1,577·5 cubic yards, scow measurement. Class B. Mud, sand and gravel.

Total expenditure, $880.47.

Work commenced June 2, 1920; completed June 23, 1920.

Object of work: The removal of material to a depth of 6 feet at low water from three shoal areas in channel.

Monetville, Ont.—

R. de B. Corriveau, district engineer. Day labour.

Total expenditure, $82.05.

Work commenced. July 30, 1920; completed. July 30, 1920.

Object of work: Removing obstructions from channel leading to Monetville.

N. W. Miramichi River, N.B.—

Geoffrey Stead, district engineer. Day labour.

Quantity removed, 73 snags.

Total expenditure, $102.

Work commenced May 27, 1920; completed July 23, 1920.

Object of work: Removal of snags from channel.

N. W. Miramichi River, N.B.—

Under contract No. 12785 with Miramichi Dredging Company, Limited, dredge *Peter England.*

Quantity removed: 11,647·9 cubic yards, scow measurement, at 54¾ cents per cubic yard. Class B. Sand and gravel.

N. W. Miramichi River, N.B.—Concluded.

Amount passed for payment, $6,377.22; inspection, $500.50; total expenditure, $6,877.72.

Work commenced June 29, 1920; completed October 8, 1920.

Object of work: The dredging of three shoals: Goodfellow Bar, Cassilis and Lawlor's Shore in upper channel of Northwest Miramichi river.

Oakville, Ont.—

Under contract No. 12881 with C. S. Boone Dredging and Construction Company, Limited, dredge *Meade.*

Quantity removed: 16,603 cubic yards, place measurement, at 65½ cents per cubic yard. Class B. Mud, sand, layer rock and stones.

Total expenditure, $10,874.97.

Work commenced July 23, 1920; completed August 30, 1920.

Object of work: Cleaning out the channel 50 feet wide to a depth of 12 feet below elevation. 245.

Pointe à Brosseau, Que.—

J. T. Bertrand, district engineer. Day labour.

Quantity removed: 125 cubic yards, place measurement. Rock.

Total expenditure, $314.75.

Work commenced September 11, 1920; completed October 19, 1920.

Object of work: Removal of obstructing boulders from shelter basin.

Port Arthur, Ont.—

Under contract No. 12883, with Canadian Dredging Company, Limited, dredge *Excelsior.*

Quantity removed: 151,003 cubic yards, scow measurement, at 28 cents per cubic yard. Class B. Clay, sand and hardpan.

Amount passed for payment, $42,280.84; inspection, $425; total expenditure, $42,705.84.

Work commenced July 19, 1920; completed October 23, 1920.

Object of work: (1) To deepen C.N.R. elevator, Slip B.
(2) To dredge channel leading to dry dock and channel from entrance channel to layto berth, and clean up shoal areas in layto berth.
(3) To dredge shoal spots in main entrance channel.
(4) To dredge slip at Thunder Bay elevator.

Port Hope, Ont.—

Under contract No. 12868 with Frontenac Dredging Company, Limited, dredge *St. Lawrence.*

Quantity removed: 2,551·2 cubic yards, place measurement, at $1.70 per cubic yard. Class B. Silt, sand, shale, rock.

Amount passed for payment, $4,337.04; inspection, $176.50; total expenditure, $4,513.54.

Work commenced July 10, 1920; completed August 10, 1920.

Object of work: To dredge to a depth of 13 feet, berths in inner west harbour.

Port Hope, Ont.—

Under agreement with Frontenac Dredging Company, Limited, dredge *St. Lawrence.*

Quantity removed: 2,137.4 cubic yards, place measurement, at 85 cents per cubic yard. Class B. Sand, silt, shale.

Total expenditure, $1,816.79.

Work commenced July 31, 1920; completed August 10, 1920.

Object of work: To extend channel inward in East Harbour.

Porter's Lake Canal, N.S.—

W. P. Morrison, district engineer. Day labour.
Total expenditure, $698.
Work commenced July 22, 1920; completed October 7, 1920.
Object of work: To clean out silted in material at upper end of canal.

River St. Charles, N.B.—

Geoffrey Stead, district engineer. Day labour.
Quantity removed: 394·1 cubic yards, scow measurement.
Total expenditure, $243.
Work commenced July 3, 1920; completed July 9, 1920.
Object of work: Cleaning channel through shoal areas.

St. John, N.B. (Deep Water Berths)—

Under contract No. 12912 with J. A. Gregory, dredge *Beacon Bar.*
Quantity removed: 35,000·9 cubic yards, scow measurement, at 32 cents per cubic yard. Class B.
Amount passed for payment, $11,387.70; inspection, $521.50; total expenditure, $11,909.20.
Work commenced September 25, 1920, suspended for season February 21, 1921.
Object of work: To maintain a depth of 32 feet.

Sault Ste. Marie, Ont.—

W. J. Fuller, district engineer.
Total expenditure, $481.68.
Object of work: Sweeping channel and harbour.

Sault Ste. Marie, Ont.—

Under contract No. 12405, for hire of plant, with Soo Dredging and Construction Company, Limited, dredge *Derrick No. 24.*
Quantity removed: 280 cubic yards, scow measurement. Class A/B. Loose rock and boulders.
Total expenditure, $2,500.
Work commenced June 14, 1920, completed July 3, 1920.
Object of work: Removal of obstructions in St. Mary's river to a depth of 21·5 feet L.W.L.

Sturgeon Point, Ont.—

J. M. Wilson, district engineer. Day labour.
Total expenditure, $140.
Work comenced August 30, 1920, completed September 2, 1920.
Object of work: Removal of boulder reported to be an obstruction in channel.

Thames and Sydenham Rivers, Ont.—

H. B. R. Craig, district engineer. Day labour.
Total expenditure, $2,433.23.
Object of work: Removal of snags from navigable sections of Thames and Sydenham rivers.

Verdun-La Tortue Channel, Que.

J. T. Girard, district engineer. Day labour.
Total expenditure, $1,482.30.
Work commenced May 26, 1920, completed August 26, 1920.
Object of work: Removing boulders and other obstructions from the channel between Verdun and La Tortue.

Whitby, Ont.—

Under contract No. 12881, with C. S. Boone Dredging and Construction Company, Limited, dredge *Meade*.

Quantity removed: 7138·6 cubic yards, place measurement, at 64½ cents per cubic yard. Class B. Sand and Clay.

Amount passed for payment, $4,604.40, inspection, $85; total expenditure, $4,689.40.

Work commenced September 3, 1920; completed September 22, 1920.

Object of work: Dredging a channel 50 feet wide to a depth of 14 feet and a basin at the coal loading wharf below elevation 245.

William Head, B.C.—

Under contract No. 12837 with Pacific Construction Company, Limited, dredge *P. S. B. & D. No. 1.*

Quantity removed: 26,823 cubic yards, place measurement, at 48 cents per cubic yard. Class B.

Amount passed for payment, $12,875.04; inspection, $153; total expenditure, $13,028.04.

Work commenced July 12, 1920. completed July 19, 1920.

Object of work: Dredging at Quarantine Station (Main and Coal wharfs).

Windsor, N.S.—

W. P. Morrison, district engineer. Day labour.

Quantity removed: 550 cubic yards, place measurement.

Total expenditure, $480.50.

Work commenced July, 1920, completed July, 1920.

Object of work: To remove mud down to a general level of 20 feet below the top of wharf at Railway Department wharf.

CALENDAR YEAR DEPARTMENTAL DREDGING 1920.

MARITIME PROVINCES.

Dredge.	Date.	Locality.	Material.	Quantity cu. yds.	Cost Locality.	Total Expend.	Cost per cu.yd.
					$ cts	$ cts.	$ cts.
"No. 1"	Jan. 1-Feb. 20	St. John, N.B. Inner channel	Gravel, mud and sand.	61,539	19,576 42		0·318
	Feb. 21-April 23 May 3-18, 26, 27, 31 and June 1.	Digby, N.S., channel	Mud, sand and rock.	111,324	40,216 05		0·361
	April 24-May 1 and 19, 25, 28, 29 and June 2-5.	Digby, N.S., Raquette	Mud, sand and rock.	17,636	7,372 88		0·418
	July 7-17	St. John, N.B., Winter port berths.	Mud	14,177	7,442 24		0·525
	July 19-Aug. 5	St. John, N.B., Long wharf	Mud, sawdust	6,060	3,524 62		0·581
	Aug. 6-Oct. 7	Liverpool, N.S., channel	Mud, sawdust and sand.	38,050	23,771 35		0·625
				248,786		101,903 56	0·410
"No. 2"	May 13-17	Sydney, N.S., wharf	Stone, clay and rocks.	240	1,348 58		5·619
	May 18-29	New Campbellton, N.S	Clay, mud, rock	3,110	2,215 53		0·712
	May 31	Kelly's Cove, N.S., coal pier	Mud and clay	1,200	770 62		0·642
	June 1-14	Pictou, N.S., Govt. wharf	Hard clay, mud, sand, logs, stone	3,859	4,431 06		1·148
	July 5-Sept. 24	Buctouche, N.B., channel	Sand, mud, clay and logs.	55,130	28,031 26		·508
	Sept. 27-Oct. 25	Newcastle, N.B., N.W. bar	Sand, sticks, mud, logs.	11,296	9,151 10		0·810
	Oct. 26-29	Newcastle, N.B., Sullivan's wharf.	Old logs and sticks	900	1,059 60		1·177
				75,735		47,007 75	0·621
"No. 3"	May 21-July 9	Bathurst, N.B., Fourth range.	Sand and clay	39,334	16,977 21		0·431
	July 10-22, 26, 31 and Sept. 13, 14, 20 and Oct. 1, 2, 6 and 7.	Bathurst, N.B., Third range	Sand and clay	21,518	9,603 50		0·446
	July 23, 24 and Aug. 13-21, 28-30, Sept. 15-18 and 20-25, 27-30 and Oct. 4-5.	Bathurst, N.B., Outside bar	Sand and clay	31,665	14,390 79		0·454
	Aug. 2-12, 23-27, and 31, Sept. 4 and 6-11	Bathurst, N.B., Ripple bar	Sand and clay	13,693	7,010 76		0·512
				106,210		47,982 26	0·452
"No. 4"	May 18-June 3	Trenton, N.S., Cantley Pt	Mud and gravel	6,820	3,562 72		0·522
	June 4-14	Trenton, N.S., Chambers Pt	Sand and gravel	4,515	3,117 38		0·690
	June 15	Trenton, N.S., wharf	Mud	576	334 00		0·580
	June 16-18	Pictou, N.S., Rly. wharf	Mud	768	389 67		0·507
	June 19-July 8	New Campbellton, N.S., wharf	Mud and stone	4,992	2,616 37		0·524
	July 9-Oct. 5	Glace Bay, N.S., wharf	Silt, mud, stone, clay	33,024	15,586 90		0·472
	Oct. 6-29	Sydney, N.S., wharf	Clay and stone	768	612 34		0·797
				51,463		26,219 38	0·509
"No. 5"	May 21-Oct. 28	Yarmouth, N.S., channel	Mud and sand	285,594	44,504 68		0·155
	Oct. 30-Nov. 9.	Yarmouth, N.S., Marine slip	Mud, sand and gravel	3,848	1,622 16		0·421
				289,442		46,126 84	0·159
"No. 7"		Sold.				465 58	
"No. 9"	June 21-July 8	Charlottetown, P.E.I., Bantain and Bell's wharf.	Mud, rock, wood, sand.	9,595	5,310 93		0·553
	July 8-28	Charlottetown, P.E.I., C.N.R. wharf.	Mud, sand	11,115	7,641 24		0·687
	July 29-Aug. 20.	Charlottetown, P.E.I., A. Pickard & Co.'s wharf.	Mud, sand and clay.	12,000	6,719 95		0·560
	Aug. 21-Sept. 18	Vernon Bridge, P.E.I	Mud	19,535	7,587 05		0·388
	Sept. 20-Oct. 23	Vernon, P.E.I	Mud, sand, brick, clay.	25,620	14,469 58		0·565
				77,865		41,728 75	0·536
"No. 10"		Not in commission				583 38	
"No. 11"	May 8-July 17.	Bay Fortune, P.E.I., channel.	Sand, gravel, rock, wood, clay, ballast, boulders.	10,848	10,339 94		0·953
	July 19-Aug. 7	Georgetown, P.E.I., ferry dock.	Silt and soft mud	2,071	2,374 06		1·146
	Aug. 9-Sept. 9	Ballantyne's Cove, P.E.I., Breakwater.	Rock, sand and gravel	4,665	4,748 12		1·018
	Sept. 10-Oct. 30	Charlottetown, P.E.I., dock	Mud, hardpan, brick clay, blue mud	7,140	7,769 67		1·088
				24,724		25,231 79	1·021

CALENDAR YEAR DEPARTMENTAL DREDGING 1920—*Continued*

MARITIME PROVINCES.

Dredge.	Date.	Locality.	Material.	Quantity cu. yds.	Cost Locality.	Total Expend.	Cost per cu. yd.
				$ cts.	$ cts.		$ cts.
"No. 12"	.....	Not in commission	.....	.....	.....	1,643 67	
"No. 13"	June 9-Aug. 14...	Margaree Harbour, N.S	Sand, gravel, rock, clay, mud, ballast, boulders.	66,895	46,680 94	.....	0·697
	Aug. 28-Sept. 30.						
	Aug. 16-27	Chimney Corner, N.S	Rock, sand, mud and gravel.	2,480	2,578 48	.....	1·039
	Oct. 21-29	Mulgrave, N.S., railway dock.	Ashes and rock	1,743	2,202 44	.....	1·263
	Oct. 30-31	Point Tupper, Ferry dock	Gravel and rock	330	429 77	.....	1·302
	Nov. 1-25	Sydney, N.S., wharves	Mud, clay and rock.	4,977	5,855 28	.....	1·176
				76,425	.....	57,746 91	0·755
"No. 14"	.....	Not in commission	.....	.....	.....	63 35	
"No. 15"	June 16-Oct. 16..	Middle South, N.S	Mud	15,891½	5,284 72	.....	0·332
	May 3-June 15 and Nov. 17-Dec. 1.	Lunenburg, N.S Marine railway.	Mud	4,139	2,124 35	.....	0·513
	Oct. 17-Nov. 16.	Lunenburg, N.S., Back harbour.	Mud	3,330	1,169 44	.....	0·351
				23,360½	.....	8,578 51	0·366
"No. 115"	.....	Not in commission (extensive repairs).	.....	.....	.....	52,438 96	
"Stonelifter No. 1."	.....	Not in commission	.....	.....	.....	3,605 78	
"Rockbreaker No. 3."	.....	Rented to Can. National Railways.	.....	.....	.....	391 75	
Office Staff and expenses.	.....	.....	.....	.....	.....	4,611 95	

ONTARIO AND QUEBEC.

"No. 1" (Q. & R.).	Aug. 3-Sept. 11.	Jeannette's Creek, Ont	Sand, clay	31,364	38,166 30	.....	1·216
	Sept. 13-Oct. 9.	Kingsville, Ont	Sand	8,959	17,140 13	.....	1·913
				40,323	.....	55,306 43	1·371
"No. 102"	.....	Not in commission	.....	.....	.....	127 69	
"No. 103"	.....	Not in commission	.....	.....	.....	2,804 01	
"No. 106"	.....	Not in commission. (Sold)	.....	.....	.....	295 76	
"No. 109"	.....	Not in commission (extensive repairs).	.....	.....	.....	41,374 28	
"No. 110"	May 20-26	Murray Bay, Que	Hardpan and clay	3,505	2,241 07	.....	0·639
	May 31-Oct. 25..	Port Alfred, Que	Clay and sand	187,920	67,857 74	.....	0·361
				191,425	.....	70,098 81	0·366
"No. 111"	.....	Not in commission	.....	.....	.....	63 55	
"No. 112"	.....	Not in commission	.....	.....	.....	720 00	
"No. 115"	.....	Not in commission (transferred to M.P.).				4,243 74	
"No. 116"	June 9-Aug. 19...	Batiscan, Que	Sand	47,029·8	35,066 50	.....	0·745
	Aug. 22-Sept. 11.	Doucette's Landing	Sand, clay and boulders.	16,686	11,153 11	.....	0·668
	Sept. 13-15	Three Rivers, Que	Sand and clay	1,915·8	1,804 23	.....	0·941
				65,631·6	.....	48,023 84	0·731
"No. 117"	May 15-June 1..	Port Burwell, Ont	Sand, silt, mud	12,228	5,417 32	.....	0·443
	June 2-10.	Erieau, Ont	Sand, gravel and mud.	10,126	3,429 68	.....	0·338
	June 11-Aug. 17..	Port Stanley, Ont	Sand, silt, mud..	92,316	28,684 41	.....	0·310
	Aug. 18-Nov. 30	Port Burwell, Ont	Mud, sand, clay, silt	118,848	36,206 26	.....	0·304
				233,518	.....	73,737 67	0·315
"No. 118"	.....	Not in commission	.....	.....	.....	20 00	
"No. 119"	.....	Not in commission	.....	.....	.....	822 47	
"No. 120"	.....	Not in commission	.....	.....	.....	5,616 95	
"No. 121"	May 8-20	Ile du Pads, Que	Sand and clay	2,720	1,685 72	.....	0·619
	May 21-June 25..	St. Denis	Clay	8,887	4,707 68	.....	0·529
	June 26-Sept. 15.	Notre Dame de Pierreville, (River St. Francis).	Sand	20,336	10,669 37	.....	0·524
				31,943	.....	17,062 77	0·534
"No. 122"	.....	Not in commission	.....	.....	.....	6 75	
"No. 123"	April 29-May 31.	River St. Maurice, P.Q	Sand and clay	23,633	10,515 45	.....	0·444
	June 1-Sept. 18.	Vaudreuil, P.Q.	Clay	90,236	30,859 28		0·341
				113,869	.....	41,374 73	0·363

CALENDAR YEAR DEPARTMENTAL DREDGING 1920—*Continued*

ONTARIO AND QUEBEC—*Concluded.*

Dredge.	Date.	Locality.	Material.	Quantity cu. yds.	Cost Locality.	Total Expend.	Cost per cu.yd.
					$ cts.	$ cts.	$ cts.
"Harricana"	July 31-Aug. 31	Landrienne River (mouth)	Clay	3,416	1,935 90	.....	0·566
	Sept. 1-Oct. 30	Lake DeMontigny, Askogiwash River.	Clay	8,553	3,464 15		0·405
				11,969	.....	5,400 05	
"Stonelifter No. 1."	.....	Not in commission	.....	..	.....	4 80	
"Stonelifter No. 2".	.....	Not in commission	.....	.....	.....	89 81	
"Steam Derrick"	.....	Not in commission	.....	.....	.....	17 75	
"Sweep Scow".	.....	.....	.....	.....	.....	57 00	
"Victoria Island Shipyard."	.....	Maintenance, repairs, contingencies.	.....	.....	.....	10,199 85	
"Spare Scows".	.....	.....	.....	.....	.....	1,311 06	
"Messages"	.....	.....	.....	.....	.....	1,795 95	

MANITOBA, SASKATCHEWAN AND ALBERTA.

"No. 201"	June 3-Sept. 3	Mouth of Red River	Sandy clay	53,821	7,380 12	.....	0·137
	Sept. 4-Oct. 28	Selkirk, Middle Ground	Clay, sand, gravel	62,890	7,955 20	.....	0·126
				116,711	.....	15,335 32	0·131
"No. 202"	.....	Not in commission	.....	.....	.....	1,183 72	
"No. 204"	Aug. 18-Oct. 14	Big Georges Island	Rock and clay	2,728	.....	11,979 57	4·391
"No. 205"	June 3-11	St. Andrews lock and dam	Mud and rock	2,253	2,159 49	.....	0·958
	June 12-July 22	Winnipeg Beach	Gumbo	8,689	4,100 03	.....	0·471
	July 22-Sept. 23	Winnipeg	Mud	14,065	8,262 58	.....	0·587
	Sept. 23-Oct. 7	Selkirk Slough	Mud	2,813	2,190 93	.....	0·778
				27,820	.....	16,713 03	0·600
"No. 208"	June 4-Oct. 2	The Pas, Man	Sand, clay, gumbo, gravel, boulders and stone.	17,400	.....	13,147 00	0·755
"No. 210"	June 4-Sept. 13	Mossy River channel	Mud, hardpan, boulders, hardclay, silt and clay.	8,585	.....	12,604 81	1·468
Tug "Hecla"	.....	Transferred to Marine Dept.	.....	.....	.....	116 40	
"Montgomery"	.....	.....	.....	.....	.....	25 00	
"Floating Pile Driver."	.....	.....	.....	.....	.....	1,430 20	
"Selkirk Shipyard."	.....	.....	.....	.....	.....	3,456 68	

BRITISH COLUMBIA.

"No. 301"	April 19-30	Woodward Slough	Silt and debris	1,388	2,748 09	.....	1·97
	May 3-June 5	Powell River, Govt. wharf	Clay, boulders	14,158	10,752 30	.....	0·759
	June 7-15	Powell River Co. Log Pond	Hardpan, clay, boulders and pulp.	60,046	48,482 75	.....	0·807
	July 31-Oct. 9						
	July 20-30 and Oct. 11-28.	Nanaimo, Western Fuel Co.	Rock	469	3,052 80	.....	6·50
	Oct. 29-Dec. 31	B.C. Marine G.H.O., Shoal Ch. Gibsons.	Gravel	28,329	15,790 20	...	0·557
				104,390	.....	80,826 14	0·774
"No. 302"	.....	Not in commission	.....	.....	.....	1,276 55	
"No. 303"	Jan. 1-10, Aug. 16-Sept. 4, Sept. 13-Nov. 15, Dec. 6-31.	Woodward Cut	Sand, silt	325,182	36,225 70	.....	0·111
	Jan. 12-Feb. 7, Feb. 9-July 21, July 29-Aug. 14.	Wallace Shipyard, G.O.H., Sandheads.	Sand and silt	545,917	53,505 78	.....	0·098
	July 22-28, Sept. 6-11-Nov. 16, Dec. 4.	B.C. Marine, North Arm channel.	Sand and silt	39,278	5,770 21	.....	0·146
				910,377	.....	95,501 69	0·104

CALENDAR YEAR DEPARTMENTAL DREDGING 1920—*Concluded*

BRITISH COLUMBIA—*Concluded*

Dredge.	Date.	Locality.	Material.	Quantity cu. yds.	Cost Locality.	Total Expend.	Cost per cu.yd.
					cts.	$ cts.	$ cts.
"No. 305"	Jan. 1-Mar. 2, Mar. 11-15.	King Edward Cut	Sand and silt	132,035	15,160 40		0·114
	Mar. 2-10	Oilery Slough	Sand and silt	14,530	2,191 17		0·15
	Mar. 17-May 22 June 28-Sept. 6, Sept. 9-Oct. 30.	North Arm Cut No. 1	Sand and silt	382,785	44,814 01		0·117
	May 24-June 11	Wallace Shipyard (general overhaul).					
	June 12-26	Celtic Cannery	Debris	13,850	2,721 18		0·196
	Sept. 7-8	North Arm Lumber Co	Debris	3,890	590 97		0·151
	Nov. 1-13	Bucklin Lumber Co	Debris	11,985	3,390 05		0·282
	Nov. 15-Dec. 31	Ballantyne Pier	Sand and gravel	50,946	15,798 78		0·31
				610,021		84,666 56	·138
"No. 306"		Not in commission				7,119 10	
"No. 307"		Not in commission				2,994 00	
"No. 311"	Jan. 1-April 27	Cottonwood Point, Diversion Channel, Columbia River Narrows.	Sand, gravel, rocks and clay.	35,001	11,166 89		0·318
	Oct. 21-Dec. 4	Two Beacon Bar	Sand, gravel, clay	25,515	5,589 06		0·219
	Dec. 6-31	Cottonwood Point, Diversion Channel, Columbia River Narrows (Cleaning new channel.)	Sand and gravel	11,250	2,076 28		0·184
				71,766		18,832 23	0·262
"No. 313"		Not in commission. (Sold)				70 36	
"Rockbreaker No. 1."	June 12-July 17.	Nanaimo, Western Fuel Co	Rock	430 (Est.)	6,992 24	6,922 24	16·26
"Rockbreaker No. 2."		Not in commission				1,017 59	
"Drilling Plant".		Not in commission				238 35	
"Office Expenses."						1,867 05	

DEPARTMENTAL BUCKET-LADDER DREDGES, 1921.

Name.	Official Registry Number.	Tonnage.	When built.	Where built.	Builder.	Cost equipped.	Present estimated value.	Hull. Material.	Hull. Length O.A.	Hull. Beam O.A.	Hull. Working draft.	Hull. Draft loaded.	Main Engines. Type.	Main Engines. Size.	Main Engines. Maker.	Propelling Engines. Number.	Propelling Engines. Type.	Propelling Engines. Size.
						$	$		′ ″	′ ″	′ ″	′ ″						
P.W.D. No. 1..	134,184	R886-76 G. 1605	1905	Sorel, Que	Dept. Pub. Wks.	612,784	600,000	Steel.	245	42 0	11 0 F 15 0 A	17 0	Triple expansion	14″, 22″, & 36″ x 22″	Polson Iron Works.	2	Triple expansion.	14″, 22″ & 36″ x 22″.
P.W.D. No. 2...	71,716	R 290	1875	Renfrew, Scotland	Wm. Simons & Co., Ltd.	100,000	30,000	Iron.	182	32 0	8 0 F 9 6 A	13 6	Marine.....	28″ x 21″.	Wm. Simons & Co., Ltd.	1	Fore and aft	28″ x 21″
P.W.D. No. 7	Sold.																	
P.W.D. No. 306	129,520	G747-66 R434-75	1910	Renfrew, Scotland	Wm. Simons & Co., Ltd.	210,000	200,000	Steel.	210	36 6	11 0	...	Fore and aft compound.	18″ & 36″ x 24″.	Wm. Simons & Co., Ltd.	2	Fore and aft compound.	18″ 36″ x 24″.

Name.	Boilers. Number.	Boilers. Type.	Boilers. Diameter.	Boilers. Length.	Boilers. Pressure Allowed.	Boilers. Fuel consumption per day of 10 hours.	Fuel. Capacity.	Fuel. Kind.	Working depth. Maximum.	Working depth. Minimum.	Length of ladder.	Buckets. Number.	Buckets. Size.	Hoppers. Number.	Hoppers. Capacity of each.	Anchor Cables. Number.	Anchor Cables. Size.	Anchor Cable Engines. Size.	Anchor Cable Engines. Type.	Condenser. Size.	Condenser. Type.	No. of crew.	Average capacity per day.	Cu. Yds. per hour. Clay.	Silt.	Sand.	Gravel.	Clay and silt.	Sand and gravel.	Boulder.
			′ ″	′ ″					′ ″	′ ″	′ ″				Cu. yds.								Cu. yds.							
P.W.D. No. 1..	2	Cylindrical.	13 0	11 6	160	4 tons.	130 tons..	Soft coal...	52	14	108 0	39	1 c.y..	2	500	6	1¼″ & 1¼″	2-10″ x 20″	Double.	3′ 0″ x″ 8′ 5	Surface.	27	7000	1000	1000	....	1000	1000	[1]100	80
P.W.D. No. 2..	1	Scotch Marine.	14 6	9 6	50	4 tons..	54 tons..	Sydney coal	28	11½	65 0	32	½ c.y..		[5]	2	1⅛	....	Double.	3′0″x6′ 0″	Surface.	17	1200	100	150	200	200	130	200	..
P.W.D. No. 306	[2]1	Scotch Marine.	12 9	12 6	120	16 bbls	200 bbls.	Crude oil..	50	15	130 0	40	15c.ft.	..	....	6	1½″, 1¾″, 1¼″, 1⅛″	10x12″ 10x10″	Simple	8′ 0″..	Surface	22	3000	....	150	300	300	100	[4]200	.

[1]Includes boulders. [2]And donkey. [4]Includes boulders. [5]Hoppers not usable.

DEPARTMENTAL HYDRAULIC DREDGES, 1921.

Name.	Official Registry Number.	Tonnage.	When built.	Where built.	Builder.	Cost equipped.	Present estimated Value.	Hull. Material.	Hull. Length O.A.	Hull. Beam O.A.	Hull. Working draft.	Hull. Draft loaded.	Pumping Engines. Type.	Pumping Engines. Size.	Pumping Engines. Horse power.
							$		′ ″	′ ″	′ ″	′ ″			
P.W.D. No. 3..	130,642	G. 469 R. 319	1900	Rotterdam.. . . .	Lohnis & Co	$60,397	75,000	Steel..... .	162 0	29 9	10 0	13 0	Triple expansion	11 1/16, 16 7/32″, 27 5/16 x 18″	300
P.W.D. No. 5..	134,187	G. 796	1906	Toronto..... . . .	Polson Iron Works.	183,770	183,000	Steel.... ..	131 6	52 0	6 6	.....	Triple expansion	14″, 22 x 36″ x 22″	600
P.W.D. No. 12..	133,759	434·84	1913	St. John, N.B.....	Phoenix Foundry & Mach. Co	82,500	82,500	Steel.....	110 0	32 0	3 10	.....	Triple expansion	8½″, 13½ & 22″ x 16″..	200
P.W.D. No. 201.	134,607	G. 442·49	1906	Selkirk, Man ...	Polson Iron Works.	30,000	18,000	Wood.....	130 0	33 0	5 0	.....	Compound.....	10″ & 20″ x 12″	.
P.W.D. No. 303	150,501	4,023	1907	Danzig, Germany..	Shiehan & Co.... .	250,000	210,000	Steel....	200 0	36 0	11 0 A. 5 0 F.	13 0 A. 15 0 F.	Compound.....	2-13½″ & 25″ x 15″....	230
P.W.D. No. 305	150,502	G591·63 R319·38	1901	New Westminster, B.C.	Polson Iron Works.	130,172	100,000	Steel & wood.	146 6	33 0	5 8	.....	Triple expansion	13-13½″, 22″ & 36″ x21″	500

Name.	Propelling Engines. Type.	Propelling Engines. Size.	Boilers. Pressure Allowed.	Boilers. Number.	Boilers. Type.	Boilers. Diameter.	Boilers. Length.	Boilers. Horse power.	Boilers. Fuel consumption per day of 10 hours.	Fuel. Capacity.	Fuel. Kind.	Size of suction.	Discharge Pipe. Size.	Discharge Pipe. Length.	Hopper. Number.	Hopper. Capacity cu. yds.	Working Depth. Maximum.	Working Depth. Minimum.	Average capacity Cu. Yds. per 10 hours.	No. of crew.	Cu. Yds. per Hour. Sand.	Cu. Yds. per Hour. Silt.	Cu. Yds. per Hour. Clay.	Cu. Yds. per Hour. Gravel.	Cu. Yds. per Hour. Sand and gravel.	Cu. Yds. per Hour. Sand and silt.	Cu. Yds. per Hour. Sand, gravel, and boulders.
						′ ″	′ ″					″	″	′			′	′ ″									
P.W.D. No. 3. .	[1]	.....	150	1	Scotch Marine	12 6	10 0	...	1½ tons..	27 tons...	Soft coal	24	22	15	2	483	45	10	3445	17	700	600	300	900	483	700	.
P.W.D No. 5...	None..	. . . .	160	2	Scotch Marine	12 0	12 0	...	8 tons...	200 tons...	Soft coal	24	24	2000	N	one.	35	6	5000	19	350	400	200	270	300	400	
P.W.D No. 12.	None	. . .	160	[2] 1	Scotch Marine	9 11	12 0	.	4 tons..	45 tons...	Soft coal	15	15	900	N	one.	18	3	1500	13	300	...	. .	...	..		
P.W.D No. 201	Simple..... .	14″ x 60″. .	150	2	Scotch.	7 0	9 0	..	2½ tons..	15 tons...	Soft coal	10	12	200	N	one.	12	4 6	725	8	...	...	...	...	...	...	
P.W.D. No. 303	Compound	24-13½″ & 25″ x 15″.	128	2	Cylindrical..	12 0	10 8	.	40 bbls	740 bbls.	Oil	416	24	..	6	800	45	16 0	10000	19	1600	1400	500		800	1500	
P.W.D. No. 305	Horizontal...	16″ x 72″. .	172	[5] 2	Heine water tube.	[5]	20 6	. .	40 bbls.	300 bbls.	Oil.	20	20	4000	...	....	40	8	5000	21	500	800	400	400	450	650	

[1]Same engines for pumping and propelling. [2]And donkey boiler, [4]2-suction pipes. [5]8′ 0″ W. x 12′ 6″ H. x 20′ 6″ L. [3]2 while dredging and 4 coupled when steaming distance.

DEPARTMENTAL DIPPER DREDGES, 1921

Name.	Official Registry Number.	Tonnage.	When built.	Where built.	Builder.	Cost equipped.	Present Estimated Value.	Hull. Material.	Hull. Length O.A.	Hull. Beam O.A.	Hull. Working Draft.	Fuel Capacity	Kind of Fuel.	Main Engines. Type.	Main Engines. Size.
						$	$		′ ″	′ ″	′ ″				
P.W.D. No. 6	Wrecked.														
P.W.D. No. 9...	130,346	368·37	1906	Toronto, Ont	Bertram Engine Works.	49,350	55,000	Steel.	90 0	36 0	7 0	31 tons....	Soft coal.....	Simple.....	(2) 10″ x 14″.
P.W.D. No. 10	130,347	244·29	1871	Summerside, P.E.I	John McKinnon....	22,000	9,500	Wood.....	81 0	27 0	6 8	10 tons....	Soft coal.....	Simple.....	16″ 16″
P.W.D. No. 11	130,348	192·12	1911	Pugwash, N.S.	Burns & Waters, Hull, P.Q.	24,000	30,000	Wood.....	64 7	27 9	4 8	10 tons..	Soft coal.....	[1]Simple.....	(2) 8½″x 12″.
P.W.D. No. 3	133,050	404	1913	Ottawa, Ont...	P. W. D.....	89,900	39,900	Wood..	90 2	41 4	7 0	45 tons....	Soft coal.....	[1]Simple.....	(2) 12′x14″.
P.W.D. No. 4	....	.....	1911	Ottawa, Ont.	P. W. D	83,000	80,000	Wood.... ...	90 10	34 2	8 0	22 tons....	Soft coal.....	Simple.....	(2) 10″x14″.
P.W.D. No. 101	....	. .....	1904	St. Louis de Gonzague, Que.	P. W. D	11,360	12,000	Wood.....	55 0	22 0	.. .	... .	Soft coal.....	Simple.....	8″x12″.
P.W.D. No. 102	134,537	104	1906	Buckingham, Que.....	P. W. D	21,600	18,000	Wood..... ...	66 6	24 3	2 6	6½ tons....	Soft coal. ...	Simple.....	(2) 8″x12″.
P.W.D. No. 103	134,538	104	1909	Ottawa, Ont..	P. W. D.....	23,000	18,000	Wood..... ..	65 0	25 0	2 6	6 tons.....	Soft coal.. ..	Simple.....	(2) 8½″x12″.
[3]P.W.D. No. 105	Dismantled.														
P.W.D. No. 108	Sold.														
P.W.D. No. 109	131,123	766·2	1906	Duluth, Wis . . .	Superior Dredge Co.	... ...	200,000	Wood	133 4	44 0	9 0	100 tons...	Soft coal.....	Simple.....	(2) 18″x24″.
P.W.D. No. 110	131,128	158·28	1896	Kingston, Ont.....	Michael Connelly...	.....	75,000	Steel..... ...	109 0	42 0	14 0	35 tons....	Soft coal.....	[1]Compound.	12″ & 24″x14″.
P.W.D. No. 111	Dismantled.														
P.W.D. No. 112	.....	.	1905	Sturgeon Falls, Ont.	P. W. D.	21,642	18,000	Wood..... ...	75 4	28 6	11 0	20 tons....	Soft coal.....	Simple.....	12½″x15″.
[3]P.W.D. No. 113	Dismantled.														
P.W.D. No. 114	Sold.														
P.W.D. No. 115	134,542	{G.468·15 R.413·51}	1907	Ottawa, Ont...	P. W. D..... ..	81,844	70,000	Wood	97 0	43 0	13 0	25 tons....	Soft coal.....	[1]Simple.....	(2) 14″x16″.
P.W.D. No. 116	131,129	375·28	1902	Sorel, Que..... .	P. W. D..... ...	75,000	70,000	Wood & steel.	92 0	36 6	11 0	35 tons....	Soft coal.....	[1]Simple.....	(2) 14″x16″.
P.W.D. No. 117	112,186	{G.668·64 R.570·49}	[4] 1902	Toronto, Ont.	Polson Iron Works	102,000	175,000	Steel & wood	110 0	38 0	8 0	80 tons...	Soft coal.....	Simple.....	(2) 16″x18″.
P.W.D. No. 118	... .	100	1903	Timiskaming Station Que.	P. W. D	19,600	10,000	Wood.....	66 0	25 0	5 0	3½ tons.. .	Soft coal.....	Simple.....	(2) 8″x14″.
P.W.D. No. 119	138,077	160·62	1903	Ottawa, Ont ...	P. W. D	23,250	17,000	Wood.....	73 0	20 6	4 6	13 tons....	Soft coal.....	Simple.....	(2) 7″x14″.
P.W.D. No. 120	133,938	{G.267·58 R.216·71}	1899	Ottawa, Ont	P. W. D..... . .	50,000	30,000	Wood..... .	85 0	32 8	9 0	18 tons....	Soft coal.....	Simple.....	12″x11″ (2).
P.W.D. No. 121	134,541	104	1906	Ottawa, Ont . .	P. W. D	21,020	18,000	Wood	61 0	24 0	2 6	6 tons.....	Soft coal.....	Simple	(2) 8½″x12″.
P.W.D. No. 122	Dismantled.														
P.W.D. No. 123	133,934	404·00	1913	Ottawa, Ont	P. W. D..... . .	80,238	80,000	Wood..... ..	96 0	4110	7 0	55 tons..	Soft coal	Simple.....	(2) 12″x12″.
P.W.D. No. 204	134,609	250	1911	Selkirk, Man.....	P. W. D....	15,000	10,000	Wood.....	82 0	34 0	4 6	20 tons....	Soft coal.....	Simple.....	(2) 8″x10″.
P.W.D. No. 205	122,280	350	1910	Selkirk, Man	P. W. D .. .	40,000	30,000	Wood.....	80 0	38 0	7 0	20 tons.	Soft coal.....	Simple	(2) 10′x14″.
P.W.D. No. 208	134,610	150	1914	Selkirk, Man.	P. W. D..	14,000	12,000	Wood..... ..	70 0	27 0	5 6	1½ cords.	Wood.....	Double....	8″x12″.
P.W.D. No. 301	130,896	538·16	1908	New Westminster, B.C	Polson Iron Works..	131,216	103,500	Steel.....	108 0	40 0	8 0	340 bbls..	Oil.....	[1]Simple.....	(2) 14″x16″.
P.W.D. No. 307	100,631	138·67	1889	Victoria, B.C	W. Turpel & Son ..	24,000	15,000	Wood and iron	95 0	31 0	6 0	45 tons.. .	Soft coal.....	[1]Simple.....	(2) 13″x13″.
P.W.D. No. 210	Dismantled.														

[1]Surface condensing. [2]Iron strapped. [4]Rebuilt 1909.

Name.	Boilers.							Spuds.			Working Depth.		Dippers.		Dipper Arm.		Length of Boom.	Main Hoist Line.			No. of crew one shift.	Province where employed.
	Number.	Type.	Dia.	Length.	Press. Allowed.	Horse-Power.	Fuel consumption per h.p. of 10h	Number.	Size.	Material.	Max.	Min.	Number.	Size.	Size.	Material.		Size.	Material.	Length.		
			′ ″	′ ″	Lb.						′ ″	′ ″		C.yd.			′ ″	″		′		
P.W.D. No. 9...	1	Scotch	9 2	10 0	145	52½	2 tons...	2	24″x24″x50′	[2]Fir	26 0	8 0	2	2½	16″x16″x45′.....	[3]Oak...	42 0	1½	Wire rope.	250	12	Mar. Prov.
P.W.D. No. 10...	1	Locomotive	5 6	10 2	50	26	1 ton...	3	(2) 14″x16″x46′ (1) 14″x16″x42′	Hard pine with iron plates.	22 0	9 0	2	1¾	14″x13½″x37′ 9″... 14x13½″x33′ 9″.	Oak	31 0	1	Wire rope.	225	11	Mar. Prov.
P.W.D. No. 11...	1	Scotch.....	6 6	8 0	140	30	10001bs.	3	(2) 15″x15″x38′ (1) 15″x15″x35′	Rock Maple Oak.	17 0	5 0	1	1	9″x9″x32′ ...	[1]Oak. .	29 6	1	Wire rope.	210	9	Mar. Prov.
P.W.D. No. 13...	1	Scotch. ...	9 0	10 0	140	..	2½ tons.	2 1	30″x30″x41′ 4″.... 24″x24″x44′ 6″....	Fir. . ..	20 0	8 0	2	(1) 3½ (1) 2½	14½″x17½″x39′	Oak & st'l	40 0	1⅝	Wire rope.	350	12	Mar. Prov
P.W.D. No. 4 ...	1	Scotch	8 6	9 7	140	53	2¼ tons..	3	(2) 24″x24″x52′ (1) 20″x20″x52′	[2]Fir..... ...	22 0	8 0	1	2½	18″x17″x42′2″....	[1]Oak	38 3	1¼	Wire rope.	175	13	Ont. & Que.
P.W.D. No. 101..	1	Locomotive	3 6	12 0	100	35	2 tons..	3	12″x12″x18′	Fir	16 0	4 0	1	¾	9″x12″x23′0″.....	Oak ..	22 0	¾	Chain.....	140	7	Ont. & Que
P.W.D No. 102..	1	Locomotive	4 4	13 0	125	37	1½ tons..	3	12″x12″x33″& 37″.	Oak	16 0	3 0	1	1	8½″x10″x26′	[5]Oak.....	29 3	¾	Chain.....	200	8	Ont. & Que.
P.W.D. No. 103..	1	Locomotive	4 4	13 0	120	37	1 ton...	3	12″x12″x32″& 35″	Oak	16 0	6 0	1	1	9″10″x27′6″.	Steel & wood	30 0	¾	Chain.....	200	8	Ont. & Que.
P.W.D. No. 109..	1	Scotch....	12 6	10 6	130	..	5 tons...	3	(2) 40″x40″x53′ (1) 30″x30″x53′	Fir	27 0	13 6 [19]	3	(1) 10 (2) 4	28½″x30″x44′ . .	[7]Steel. .	51 7	2¾	Wire rope.	208	15	Ont. & Que.
P.W.D. No. 110..	1	Scotch.	10 0	10 6	125	120	2½ tons..	4	(2) 36″x36″x86′ (2) 24″x24″x. . ′	Fir	60 0	14 0	2	(1) 5 (1) 7	(1) 20″x23″x84′ (1) 20″x21″x64′	[8]Oak.	41 3	1⅝	Wire rope.	350	14	Ont & Que
P.W.D. No. 112.	1	Fitzgibbon[10]	4 7	8 7	135	48	1½ tons..	2	20″x20″x42′ ...	Oak	19 0	11 0	1	2¼	13½″x14½″x ′.	[9]Oak. ...	36 0	1¾	Chain.....	172	8	Ont. & Que
[15]P.W.D. No. 113	1	Locomotive	4 6	12 3	80		2 tons..	3	(2) 16″x16″x39′ (1) 13″x14″x42′	Oak	20 0	10 0	1	2	15¼″x16½″x36′	Oak & ir'n	28 6	1¼	Chain	187	11	Ont. & Que
P.W.D. No. 115.	1	Scotch ..	10 0	9 0	130	85	3 tons...	3	(2) 30″x30″x60′ (1) 20″x21″x67′	Fir	35 0	13 0	2	(1) 4½ (1) 3	22″x21″x59′ . .	Fir	45 0	2	Wire rope.	220	13	Ont. & Que
P.W.D. No. 116.	1	Scotch .	10 0	9 0	130	...	2½ tons..	3	(2) 30″x30″x55′ (1) 20″x24″x64′	Fir . . .	30 0	10 0	2	(1) 3 (1) 2½	16″x18″x49′ 4″...	[13]Oak	45 0	2¼	Wire rope.	204	14	Ont. & Que
P.W.D. No. 117..	1	Scotch.	10 6	10 6	[17]140	....	3½ tons..	3	(2) 36″x36″x66′ (1) 24″x25″x66′	Steel plates	45 0	16 0	2	(1) 8 (1) 5	24″x26″x66′ . . .	Steel & wood.	50 0	2¾	Wire rope.	225	15	Ont. & Que.
P.W.D. No. 118.	1	Locomotive	4 0	14 4	125	...	2 ton...	3	14″x14″x37′ (1) 12x12x40′ 6″	Oak	19 0	6 0	1	1	14″x14″x36′ . . .	Oak.. .	34 0	1	Chain ..	250	9	Ont. & Que
P.W.D. No. 119	1	Fitzgibbon..	4 6	8 0	110	40	1 ton....	3	13½″x13½″x35′.... (1) 12″x12″x40′	Oak. .	15 0	8 6	1	1½	14″x16″x38′	Oak & st'l	30 0	1	Wire rope.	150	8	Ont. & Que
P.W.D. No. 120.	1	Locomotive	4 0	16 6	125	..	1½ tons..	2 1	24″x24″x40′..... 15″x16″x45′.	Wood (Oak)	20 0	10 0	1	2	15½″x16″34′ 2″...	Wood & iron.	29 6	1¼	Wire rope.	250	8	Ont. & Que
P.W.D. No. 121.	1	Locomotive	4 4	15 0	[18]120	37	1¼ tons..	3	″x12″x.... ... . 30″x30′x41″4″	Oak	16 0	6 0	2	(1) 1 (1) ¾	8¾″x10″x26′	Oak & st'l	30 0	⅞	Chain.....	200	8	Ont. & Que
P.W.D. No. 123..	1	Scotch.. ...	8 6	9 6	130	30	2½ tons..	3	(1) 24″x24″x40′10″	Fir	22 0	9 0	2	(1) 3½ (1) 2½	15″x17½″x39′ 0″.	Oak & st'l	35 3	1⅜	Wire rope.	350	11	Ont. & Que

DEPARTMENTAL DIPPER DREDGES, 1921.

Name.	Boilers. Number.	Boilers. Type.	Boilers. Dia.	Boilers. Length.	Boilers. Press. Allowed.	Boilers. Horse-Power.	Boilers. Fuel consumpt'n per d. of 10 h.	Spuds. Number.	Spuds. Size.	Spuds. Material.	Working Depth. Max.	Working Depth. Min.	Dippers. Number.	Dippers. Size.	Dipper Arm. Size.	Dipper Arm. Material.	Length of Boom.	Main Hoist Line. Size.	Main Hoist Line. Material.	Main Hoist Line. Length.	No. of crew one shift.	Province where employed.
			′ ″	′ ″	Lb.						′ ″	′ ″		C.yd.			′ ″	″		′		
P.W.D. No. 204.	1	Locomotive	4 0	16 0	130	...	1½ tons..	3	16″x16″x35′.....	Fir.....	15 0	4 6	1	1½	15″x18″x40′.....	Oak.....	40 0	⅞	Wire rope.	210	7	Man.
P.W.D. No. 205.	1	Scotch.....	10 0	10 0	140	...	1½ tons..	3	24″x24″x45′.....	Fir.....	20 0	7 0	1	3	16″x18″x50′.....	Wood & st	40 0	1¼	Wire rope.	178	8	Man.
P.W.D. No. 208.	1	Scotch.....	6 6	9 6	150	.	1½ cords	3	12″x12″x30′	Wood . .	13 0	6 0	1	1	12″x14″x28′....	Oak....	40 0	⅞	Wire rope.	200	8	Man
P.W.D. No. 301.	1	Scotch[12]...	10 0	10 0	150	80	15 bbls..	3	(2) 36″x36″x66′ (1) 30″x30″x66′	[14]Fir.....	10 0	15 0	3	(2) 5 (1) 3	25½″x26″x62½′.	Steel & wood	60 0	2½	Wire rope.	230	14	B. C.
P.W.D. No. 307	1	Dry Back..	7 0	9 6	125	70	1½ tons..	3	(2) 22″x23″x60′ (1) 16″x18″x60′	Wood & iron.	30 0	12 0	1	3	18″x20″x50′.....	Wood & iron.	50 0	1⅛	Wire rope.	280	12	B.C.

[1]Iron bound. [2]Iron strapped. [3]Faced with steel plates. [4]With iron plating. [5]With iron sheeting. [6]Boiler 8 ft. high. [7]With wood filler. [8]Covered by steel plate. [9]Ironed off. [10]Boiler 7′4″ high. [11]Wide, 6′1″ H. [12]Steel plate covering. [13]Also 1 Donkey boiler 3′x6′. [14]And Blue Gum wood. [16]Blow at 95. [17]Blow at 135. [18]Blow at 100. [19]Hard material without mud feet 9′0″ working depth.

DEPARTMENTAL CLAM-SHELL AND ORANGE-PEEL DREDGES, 1921.

Name.	Official Registry Number.	Tonnage.	When Built.	Where Built.	Builder.	Cost equipped.	Present estimated value.	Hull. Material.	Hull. Length O.A.	Hull. Beam O.A.	Hull. Working Draft.	Fuel Capacity.	Kind of Fuel.	Main Engines. Number.	Main Engines. Type.	Main Engines. Size.	Boilers. Number.	Boilers. Type.	Boilers. Diameter.	Boilers. Length.	Boilers. Pressure Allowed.	Boilers. Horse Power.	Fuel consumption per day of 10 hrs.
						$	$		′ ″	′ ″	′ ″								′ ″	′ ″	Lb.		
P.W.D. No. 14	.....	...	.....	.....	.....	7,000	7,000	Wood	60 0	25 0	2 8	3 tons..	Soft coal..		D.C. D.D.	7″x12″...	1	Vertical	3 2	7 6	100	....	1 ton.
P.W.D. No. 15	.....	48	1911	La Have	Boehmer Bros..	....	3,500	Wood	36 0	19 6	4 0	.. ..	Gasoline..	1	Cyl	7″x10″...		....	...	...	...	..	.....
P.W.D. No. 106	Sold.																						
P.W.D. No. 202.	134,608	.	1911	Selkirk, Man . .	P.W.D..... .	19,077	14,00	Wood	78 6	33 0	3 0	20 tons..	Soft coal..	2	Simple .	9″x12″...	1	Scotch..	7 0	9 0	[3]155	....	1 ton.
[4]P.W.D. No. 203	Dismantled.																						
[4]P.W.D. No. 206	Dismantled.																						
P.W.D. No. 209	Sold.																						
P.W.D. No. 209	Dismantled.																						
P.W.D. No. 302	.....	....	1911	Nelson, B.C	Thos. Cunningham.	12,000	9,000	Wood	68 7	31 3	2 0	1 ton....	Soft coal..	2	Simple .	8¼″x10″..	1	Vertical	3 7	7 11	150	23	1500 lbs.
P.W.D. No. 304	.....	39	1908	Penticton, B.C....	P.W.D.....	6,075	4,960	Wood	53 0	22 0	1 6	3 cords	Wood.....	2	Simple .	5½″x8″...	1	Vertical	2 9	6 1	120	14	½ cord.
P.W.D. No. 313	Sold.																						
P.W.D. No. 311	.....	....	1912	Nakusp, B.C.....	S. Mills.....	18,000	15,000	Wood	71 0	34 6	2 6	10 tons..	Soft coal..	2	Simple .	10″x12″..	1	Vertical	4 6	8 6	130	30	1 ton.

[1]Combined dredge and pile driver. Size Leads 6″x8″x40. Weight Hammer 2,000 lbs. Distance between leads 16′. [2]Rebuilt 1910. [3]Blow at 130. [2 ft. long. [4]Double cylinder.

DEPARTMENTAL CLAM-SHELL AND ORANGE-PEEL DREDGES, 1921—*Concluded.*

Name.	Spuds. Number.	Spuds. Size.	Spuds. Material.	Boom. Length.	Boom. Size.	Boom. Material.	Buckets. Number.	Buckets. Kind.	Buckets. Size.	Buckets. Make.	Working Depth. Max.	Working Depth. Min.	Can overcast from side of dredge.	Size Hoist Cable.	Size Trip Cable.	Number of Crew.	Average Capacity.	Cubic Yards per Hour. Clay.	Sand.	Silt, mud.	Gravel.	Sand and Gravel.	Sand and Silt.	Province where employed.
				Ft.					Cu.yd		′	″ ″	′ ″	″	″		Cu. yd.							
P.W.D. No. 14....		.....	.....	60	10″x12″....	Y. Pine...	1	Orange Peel.....	¾	Hayward.....	40	5 0	17½ 0	¾	¾	5	480	..	....	32	....	.....	...	Nova Scotia.
P.W.D. No. 15....	4	9″x9″x26′0″..	Spruce....	25	10″.....	Spruce.....	..	Orange Peel.....	¾	Hayward.....	18	4 0	18 0	¾	..	11	200	..	....	..	....	.....	...	N. B.
P.W.D. No. 202...	{2 {1	16″x16″x35′. 12″x12″35′..	Fir.....	40	24″x24″....	Steel.....	1	Orange Peel.....	1½	Hayward.....	15	4 0	20 0	¾ ¾	⅞	6	600	60	....	40	40	.....	....	Man., Sask., Alta.
P.W.D. No. 302...	3	14″x14″x40′..	Wood.....	[2]40	14″x14″....	Wood.....	1	Orange Peel.....	1	Hayward.....	20	2 2	25 0	¾	¾	9	500	20	40	45	25	35	45	B. C.
P.W.D. No. 304...	2	12″x12″x32′..	Fir.. ...	36	10″x12″....	Fir.....	1	Orange Peel.....	½	Hayward.....	10	2 0	26 0	½	½	6	200	15	20	20	20	20	20	B. C.
P.W.D No. 311...	{1 {2	14″x14″36′.. 14″x14″x40′.	Wood....	60	14″x16″....	Wood.....	2	{(1) Orange Peel. (1) Clam shell..}	2	Hayward.....	14	3 0	16 3	1	1	8	900	40	90	90	60	70	90	B. C.

[1]Hard. [2]And 60′. [3]For dredge, scow and boat.

DEPARTMENTAL SNAGBOATS, 1921.

Name.	Official Registry Number.	Tonnage.	When Built.	Where Built.	Builder.	Cost Equipped.	Present Estimated Value.	Hull. Material.	Hull. Length.	Hull. Beam.	Hull. Working Draft.	Fuel Capacity.	Kind of Fuel.	Average fuel consumption per day of 10 hrs.	Boilers. Number.	Boilers. Type.	Boilers. Diameter.	Boilers. Length.	Boilers. Horse Power.	Hoisting Engines. Size.	Hoisting Engines. Type.	Hoisting Engines. Maker.	Propelling Engines. Number.	Propelling Engines. Size.	Propelling Engines. Type	N. H. P.	Diameter of wheel.	Buckets. Length.	Buckets. Width.	Revolutions per minute.	Speed per hour.	Length of Boom.	Height of Frame.	Number of crew.
						$	$		′	′	′ ″			Lb.			″	″									′	′	″		M		′	
Samson..	*	†	1914	Coquitlam...	‡	30,761	26,000	Wood	**	††	4 0	140bbls.	Fuel oil.	7bbls.	..	Gunboat	72	‡‡	.	2′8″x9″	Bayfield Design.	Schaake Machine Works.	..	2 cyl. 14″x5′ 0″	.....	..	14	16	18	26	9	.	34	12
Muskrat	....		1892	Golden, B.C..	.....	4,000	2,000	Wood	91	24	1 4	10 tons..	Soft coal.	1,200	1	Horizontal.	42	[2]	..	2′8″x12″	Simple.	.....	..	[1].....	.....	..	10	13	12	20	5	..	22	7

*134304. †G. 435.94—R. 227.09. ‡Coquitlam Ship Bldg. & Mar. Ry. Co. **137. ††31½. ‡‡270.
177. [1]Hoisting engines used.

DEPARTMENTAL DRILL PLATFORMS, SCOWS AND DIVING SCOWS, 1921

Drill Platforms.

Number.	When Built.	Where Built.	Builder.	Cost Equipped.	Present Estimated Value.	Hull.					Spuds.			Compressor.		Gas Engine.		Fuel.	Remarks.
						Material.	Length.	Beam.	Depth.	Draft.	Number.	Size.	Material.	Size.	Type.	Type.	Horse Power.		
				$	$		'	'	'	''									
1		Victoria, B.C.	Alex Watson	3,096	2,290	Fir	32	22	...	...	4	12"x12"x50'	Fir	.....	Steam	.....	40	.....	Crew 10
2	1911 & 12	Victoria, B.C.	Alex. Watson	3,350	2,290	Wood & iron.	32	22	...	...	4	12"x12"x50'	Fir	.....	Air	.....		.....	Crew 8

Drill Scows.

Number.	When Built.	Where Built.	Builder.	Cost Equipped.	Present Estimated Value.	Hull.					Spuds.			Compressor.		Gas Engine.		Fuel.	Remarks.
						Material.	Length.	Beam.	Depth.	Draft.	Number.	Size.	Material.	Size.	Type.	Type.	Horse Power.		
1			....		800	Fir	66	30	4 6	2 0	2	10"x10"x50'	Fir			Steam		Coal	
2			.....	6,080	6,080	Fir	86 6	29	6 6	2 6	2	12"x12"x60"	Fir	10"x12"		Hor. Foos Engine	40	No. 1 Distillate or Coal Oil.	House & Mach'y installed by Victoria Mach'y. Depot in 1913

Diving Scow.

Number.	When Built.	Where Built.	Builder.	Cost Equipped.	Present Estimated Value.	Hull.					Spuds.			Compressor.		Gas Engine.		Fuel.	Remarks.
						Material.	Length.	Beam.	Depth.	Draft.	Number.	Size.	Material.	Size.	Type.	Type.	Horse Power.		
	1913	Victoria, B.C.	Victoria Mach. Depot Co.	177	125	Fir	18 5	10	2 6										Diver's Outfit value $700. Crew 4

DEPARTMENTAL LOBNITZ ROCK BREAKERS, 1921.

Name.	Official Registry Number.	Tonnage.	When Built.	Where Built.	Builder.	Cost. equipped.	Present estimated Value.	Hull. Material.	Hull. Length O.A.	Hull. Beam O.A.	Hull. Working Draft	Fuel. Capacity	Fuel. Kind.	Fuel. Average consumption per day, 10 hrs.	Boiler. Number.	Boiler. Type.	Boiler. Diameter.	Boiler. Length.	Boiler. Horse power.
						$	$		′	′ ″	′						′ ″	′ ″	
P.W.D. Lobnitz No. 1	130,895	222	1911	Renfrew, Scotland	Lobnitz & Co.	70,000	60,000	Steel.....	100	40 3	8	210 bbls..	Crude oil.	7½ bbls .	1	Scotch..	8 6	8 6	
P.W.D. Lobnitz No. 2	137,960	.....	1914	Renfrew, Scotland	Lobnitz & Co.	61,300	60,000	Steel.....	100	41 0	5	30 tons.. .	Coal	1¾ tons.	1	Scotch..	8 8	8 8	
P.W.D. Lobnitz No. 3	133,760	(G438·39) (R388·79)	1912	Renfrew, Scotland	Lobnitz & Co.	62,630	54,500	Steel.....	100	36 0	5	60 tons....	Soft coal .	2½ tons. .	1	Scotch..	9 0	8 6	

Name.	Engine. Size.	Engine. Type.	Auxiliaries. Spuds. Number.	Auxiliaries. Spuds. Size.	Auxiliaries. Man-oeuvering. Number.	Auxiliaries. Man-oeuvering. Size.	Condenser. Size.	Condenser. Type.	Anchor Spuds. Number.	Anchor Spuds. Size.	Anchor Spuds. Material.	Working Depth. Maximum.	Working Depth. Minimum.	Breaker. Weight.	Breaker. Position on Hull.	Breaker. Minimum Drop.	Breaker. Maximum Drop.	Number of Crew.	Where employed.	Erected by
																′	′			
P.W.D. Lobnitz No. 1	2-12″x15″..	Simple.	3	6″x5″..	2	7″x12″.	....	Wheeler surface	3	2′x2′x60′..	Fir.....	40	8	45,000 lb..	Bow....	1	18	10	B. C.	Victoria Mach'y Depot.
P.W.D. Lobnitz No. 2	12″x15″. .	Simple.	1	6¼″x6″.	2	7″x12″.	. . . . .	Wheeler Surface	3	2′x2′x60′..	Fir... .	42	12	45.000 lb.	Bow. ..	3	20	9	B. C.... .	Morgan & Co., Vancouver.
P.W.D. Lobnitz No. 3	11″x14″...	Simple.	....	.....	2	7″x12″.	2′2″x4′8″...	Surface.....	..	....	....	35	8	21 tons....	Centre .	2	20	9	Mar. Prov.	Thompson Bros.

DEPARTMENTAL STONELIFTERS, 1921.

Name.	Official Registry Number.	Tonnage	When Built	Where Built.	Builder.	Cost equipped.	Present estimated Value.	Hull. Material.	Hull. Length O.A.	Hull. Beam.	Hull. Working Draft.	Fuel. Capacity.	Fuel. Kind.	Fuel. Average consumption per day of 10 hrs.	Boiler. Number.	Boiler. Type.	Boiler. Diameter.	Boiler. Length.
						$	$		′ ″	′ ″	′						′ ″	′ ″
P.W.D. Stonelifter No. 1	.....	.....	.....	.....	.....	41,779	30,000	Steel.....	107 6	34 0	4	40 tons....	Soft coal	2 tons.....	1	Scotch..	7 2	7 8
P.W.D. Stonelifter No. 101	.....	.....	1901	Grandes Piles...	P.W.D..	1,200	2,500	Wood....	47	24 0	4	.....	.....	.....	..	.....	..	....
P.W.D. Stonelifter No. 102	.....	.....	.....	Ottawa, Ont....	P.W D....	3,000	1,000	Wood.....	46	24 0	2	3 tons....	Soft coal	¼ ton.....	1	Upright	2 10½	6

Name.	Hoisting Engines. Size.	Hoisting Engines. Type.	Hoisting Engines. Make.	Hoisting Engines. Horse Power.	Condenser. Size.	Condenser. Type.	Maximum Capacity.	Working Depth. Maximum.	Working Depth. Minimum.	Anchors. Number.	Anchors. Type.	Size of Hoisting Cable.	Material of Overhead Frame.	Max. Width of Grips.	Where Employed.	Number of Crew.	Remarks.
								′	′			″		′ ″			
P.W D. Stonelifter No. 1	(2) 9″x10″	Simple	.....	....	.....	.....	90 tons....	60	10	6	Fluke.....	1½	Steel.	14 6	Mar. Prov....	12	
P.W.D. Stonelifter No. 101	*b*.....	.....	.....	....	.....	.....	10 tons....	20	3	1	Hand Crane	1	Pitch Pine...	6 0	Ont. and Que.	11	*b* Hand Winch.
P.W.D. Stonelifter No. 102	*c*.....	Simple	Beatty	....	.....	.....	6 tons....	14	2	4	Hand Ratchet.....	¾ & ½	Fir and Oak..	9 0	Ont. and Que.	2	*c* Double engines.

DEPARTMENTAL FLOATING PILE DRIVERS, 1921.

Name.	Official Registry Number.	Tonnage.	When Built.	Where Built.	Builder.	Cost. equipped.	Present estimated Value.	Hull.					Fuel.		
								Material.	Length.	Beam.	Depth.	Working Draft.	Capacity.	Kind.	Average consumption per day of 10 hrs.
						$	$	'	'	' "	' "	"			
.....	.....	60	1908	Selkirk, Man.....	P.W.D.....	4,000	2,500	Wood.....	60	22 0	4 6	24	5 tons.....	Coal....	½ ton.
Kuspidor.....	.....	23	1912	Chase, B.C.....	P.W.D.....	2,250	1,741	Wood.....	46	16 0	3 0	12	.....	Wood...	½ cord.
No. 1.....	.....	50	....	Golden, B.C.....	.....	.....	1,500	Wood.....	50	16 0	3 0	18	5 tons.....	Coal....	500 lbs.
No. 3.....	.....	50	1911	Nakusp, B.C.....	S. Mills	2,600	2,000	Wood.....	50	18 3	4 6	20	6 cords...	Wood...	½ cord.
No. 6.....	.....	80	1913	Nelson, B.C.....	George Hale....	2,400	2,000	Wood.....	60	20 0	4 0	a40	10 cords..	Wood...	½ cord.

Name.	Boiler.			Hoisting Engine.			Leads.		Weight of Hammer.	Weight of Cap.	Distance between Leads.	Number of Crew.	Where employed.	Remarks.
	Type.	Diameter.	Length.	Size.	Type.	Maker.	Height.	Size.						
		' "	' "						Lb.	Lb.				
.....	Upright	3 6	7 0	6x10".....	Double	Doty.....	32	6"x8"....	2,000	.....	16	9	Man., Sask., Alta.	
Kupsidor.....	Vertical	2 9	6 1	5¼x8"	Simple	American Hoist & Derrick Co.	40	6"x12"....	2,000		16	6	B.C	
No. 1	Tubular	3 5	6 10	6"x12"....	Direct Acting.	March & Henthorn	34	6"x8"....	2,200		16	7	B.C.	
No. 3.....	Vertical	3 0	7 0	(2) 6¼"x10"	Simple.	American Hoist & Derrick Co.	60	6"x8" Top 6"x10" Bot	2,200	....	16	6	B.C	
No. 6	Vertical	2 6	7 0	(2) 6"x10".	Simple.	J. S. Mundy *b*.....	50	6"x6" Top 6"x10" Bot	2,200	.....	18	6	B.C.....	*a* 10" light. *b* Newark N.J., U.S.A.

DEPARTMENTAL DERRICK SCOWS, 1921.

Number.	When Built.	Where Built.	Builder.	Cost equipped.	Present estimated Value.	Hull.										Engines.		Boiler.				Coal consumption per day, 10 hrs.	Used in connection with.	Remarks.
						Material.	Thickness of Sides.	Thickness Bottom.	Thickness of Deck.	Length.	Beam.	Depth.	Draft, Light.	Draft, Loaded.	Number.	Size.	Type.	Type.	Diameter.	Length.	Working Pressure.			
				$	$		"	"	'	"	'	' "	' "	'					' "	"	Lb.			
a1	1911	Vancouver, B.C. yard.	Vancouver Shipyards, Ltd.	715	300	Wood	4	2½	2	32 4	11	2 3½	0 10	2		.....	.....	.....	..	.	....	..	P.W.D. No. 306	a Used as water scow.
a2	1911	Victoria, B.C...	Alex. Watson	720	375	Wood	4	2½	2	32 0	12	2 1½	0 11	2		.....	.....	. .	..	..	....	....	P.W.D. Lobnitz No. 1.	a Used for taking up anchors and furnishing water.
a3	1914	Vancouver, B.C.	W. Menchions..	.	675	Wood	4	2½	2	32 4	12	2 6	0 10	2	..	.....	. .	.....	....	..	....	.....	P.W.D. Lobnitz No. 2.	a Used for taking up anchors and furnishing water.
4	1911	North Vancouver, B.C.	Wallace Shipyards, Ltd.	6,400	4,950	Wood	6	4	3	70 0	26	8 4	3 0	6	1	(2) 8"x8"	Simple	Vertical	3 6	8	100	½ ton	P.W.D. No. 306	
..	1905	Chicoutimi.....	P.W.D..... ..	.....	3,500	Wood	3	6	3	65 0	27	4 3	2 0	2' 3"	1	(2) 6x14"	Simple	Upright	3 4	72	175	½ ton	. . .	Chicoutimi-Saguenay.

DEPARTMENTAL INSPECTION BOATS, 1921.

Name.	Official Registry Number.	Registered Tonnage.	When Built.	Where Built.	Builder.	Cost Equipped.	Present Estimated Value.	Hull. Material.	Hull. Length O.A.	Hull. Beam Amidship.	Hull. Depth.	Hull. Working Draft.	Average Speed.	Engines. Number.	Engines. Size.	Engines. Type.	Engines. Make.	Engines. I.H.P.
						$	$		'	' "	'	' "						
*J. H. Montgomery	..	5, 153	1915	Selkirk, Man.	P.W.D	5,500	4,000	Wood	75	17 4	8	7 0	10 M.p.h.	1	8" & 16"x12"	Gasoline	[1]Compa'd	D'y
Athel (Destr'ed by fire)	...	.	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...
Marion	...	...	1913	Nelson, B.C.	George W. Hale	3,350	3,000	Wood	35	7 0	5	2 6	12 M.p.h.	1	4¼"x5½"	Gasoline.	[1]Niagara	25
Walronda	133710	30	1912	Hong Kong	W. S. Bailey & Co	12,000	12,000	Teak	60	13 0	8' 7"	6 0	7½ M.p.h.	2	2 cyl. 6"x8"	Gasoline.	Atlas	20 B
Gaven		3	1914	Kingston, Ont	Davis Drydowe, Ltd.	1,550	1,950	White oak & cedar.	37	73	42"	30"	10 M.p.h.	1	2 cyl. 5¼x7	Gasoline	Stoiling	H P 12-15 BH P.

Name.	Boilers. Number.	Boilers. Type.	Boilers. Diameter.	Boilers. Length.	Boilers. Horse Power.	Pro-pellers. Number.	Pro-pellers. Size.	Fuel. Capacity.	Fuel. Kind.	Fuel. Average consumption per day, 10 hr.	Number in Crew.	Sleeping accommodation for.	Size of Life Boat.	Number of Life Belts.	Where Used.	Remarks.
			' "	'												
*J. H. Montgomery	1	Fitzgibbon	[2]4 6	8	....	1	4' 6"	17 tons	Coal	1,500 lbs.	4	9	14'x4'6"	12	Man., Sask., Alta.	[1]Condensing. [2]7'0" H.
Marion	...	...	...	...	...	1	22" D.x 18" P.	50 gals.	Gasoline	25 gals	1	4	18'	2	B. C.	[1]Four cylinder, four cycle.
Walronda	...	...	...	...	...	2	34" D.x 32" P	15 gals. 355 gals.	Gasoline. Distilate	50 gals. 15 gals.	2	.	12'	...	Prince Rupert, B.C. Ottawa, District	Dynamo Storage batteries c/c $400.
Gaven						1	22" D 2-6 P.	50 gals	Gasoline							

*Old Victoria rebuilt 1914-15 and now called J. H. Montgomery.

DEPARTMENTAL TUGS, 1921.

Name.	Official Registry Number	Tonnage.	When Built	Where Built.	Builder	Cost Equipped	Present Estimated Value	Hull. Material.	Hull. Length	Hull. Beam Amidships	Hull. Working Draft.	Fuel Capacity.	Kind of Fuel.	Average fuel consumption per day of 10 hours.
						$	$		′ ″	′ ″	′ ″			
Helena	133,758	G.299·46, R.203.63	1907	Collingwood, Ont.	Collingwood Shipbuilding Co.	52,500	50,000	Steel	91 0	23 3	12 0	80 tons	Soft coal	4 tons.
Lisgar	126,493	G.210 R.118·06	1909	Sorel, Que.	Pontbriand Co., Ltd	47,500	45,000	Steel	90 6	23 8	11 0	50 tons	Soft coal	3 tons.
Canso	126,803	G.225·06, R47·24	1910	Yarmouth, N.S.	New-Burrell-Johnson Iron Co., Ltd.	46,500	45,000	Steel	91 0	22 0	10 0	50 tons	Soft coal	4 tons.
Frederieton	131,137	G.100·21, R.46·76	1913	Toronto, Ont.	Polson Iron Works	31,930	31,000	Steel	71 0	21 4	9 0	25 tons	Soft coal	2 tons.
Sogenada	126,766	G.64·33, R.5·83	1909	Rutherglen	William Chalmers & Co.	20,000	20,000	Steel	73 0	15 0	10 0	14 tons	Soft coal	2½ tons.
Mabel Reid		*Dismantled*												
Rona	112,348	G 70·05, R.42·47	1903	Liverpool, N.S.	Robie S. McLeod	8,000	5,000	Wood	82 0	20 0	8 4	8 tons	Soft coal	1½ tons.
Eileen	103,213		1907	Buckingham, Que.	W. H. Kelly	6,890	4,500	Wood	47 0	13 6	6 0	4 tons	Soft coal	1½ tons.
Alva	111,447	22	1901	Ottawa, Ont.	Capt. Henry Shaver	5,500	4,000	Wood	50 0	13 2	5 11	5 tons	Soft coal	1 ton.
Sir John		*Sold*												
Mina G	126,529	G.23, R.14	1910	Buckingham, Que.	W. H. Kelly	7,865	5,000	Wood	45 0	13 6	6 0	4 tons	Soft coal	1 ton.
*Aylmer	134,545		1910	Toronto, Ont.	Polson Iron Works	8,475	7,000	St. and wood	45 4	11 6	4 4	5 tons	Soft coal	1 ton.
Hercules	122,217	G233·67 R.136·92	1906	Toronto, Ont.	Polson Iron Works	70,000	60,000	Steel	105 0	24 6	10 6	65 tons	Soft coal	3½ tons.
Archie Stewart	96,718	G. 80, R. 50	1890	Hull	J. Bedard			Wood	86 10	18 2	8 0	25 tons	Soft coal	4 tons.
Marie Louise		G.32·77, R.12·01	1900	Roberval, Que.	Beauchemin & Fils		1,000	Wood	55 0	15 0	4 9	0½ cords	Wood, coal	2 cords.
Maggie K	131,132	G.24·73, R.12·55	1912	Buckingham, Que.	See remarks[2]	7,000	6,000	Wood	46 0	13 0	6 0		Soft coal	
Cliffside	126,405	22	1909	Ottawa, Ont.	J. Hall	9,000	7,000	Wood	70 9	16 8	6 4	15 tons	Soft coal	4 tons.
St. Paul		*Sold*												
Monitor	107,891	G.61·59, N.39·13	1898	Montreal, Que.	J. & R. Weir	12,500	11,000	Steel	60 6	16 0	8 6	16 tons	Soft coal	2½ tons.
Annette		*Sold*												
Fashion		*Sold*												
Storm King	88,683	G.108, R.73	1885	Chatham		25,000	18,000	Wood	90 0	21 0	10 0	28 tons	Soft coal	5 tons.
Peel	126,983	G.204·70, R.116·73	1909	Sorel, Que.	Pontbriand Co.	47,500	45,000	Steel	100 0	23 9	9 6	45 tons	Soft coal	2½ tons.
Dora	96,710	G.48, R.44	1889	Opemican, Que.	Alex. Miller	3,000	4,500	Wood	61 8	12 2	6 3	3½ tons	Soft coal	¾ ton.
Ottawa		*Sold*												
Trudeau		*Sold*												
Blanche[3]	71,269	G.28, R.19	1872	Deseronto, Ont.			3,000	Wood	50 0	9 6	4 0	4 tons	Soft coal	2½ tons.
Daisy	100,495	G. 15, R.10	1893	Quebec, Que.		1,200	7,500	Wood	52 0	11 0	5 0	4 tons	Soft coal	2½ tons.
Delisle	61,134	G.46, R.17	1869	Buffalo, N.Y.			12,000	Wood	62 4	14 8	7 4	7 tons	Soft coal	4 tons.
Lion		*Sold*												
J. G. Witherbee	122,251	G.165, R.82	1872	Philadelphia, Pa.		12,000	15,000	Iron	110 0	21 9	8 0	30 tons	Soft coal	4 tons.
Parkdale	122,272	G.26, R.17·92	1910	Selkirk, Man.	P. W. D.	4,000	3,000	Wood	48 0	14 0	5 0	6 tons	Soft coal	¾ ton.
Peguis		G.38·93, R.24·48	1912	Selkirk, Man.	P. W. D.	9,700	7,000	Wood	58 0	15 4	6 0	8 tons	Soft coal	¾ tons.
Friday		G.38·93, R.26·48	1911	Selkirk, Man.	P. W. D.	8,250	6,500	Wood	58 0	15 4	6 6	8 tons	Soft coal	¾ tons.
Carberry		*Sold*												
Point Ellice	130,897	G.162·67, R.69·40	1911	North Vancouver B.C.	McDougall Jenkins	48,700	44,000	Steel	99 0	21 0	10 6	99 bbls.	Crude oil	10 bbls.
Point Garry	134,303	G.19, R.13	1911	Vancouver, B.C.	Vancouver Shipyard	9,315	7,200	Wood	45 0	10 7	6 6	380 gals.	No. 1 distillate	50 gals.
Point Grey	130,917	G.238·47, R162·16	1912	North Vancouver, B.C.	Wallace Shipyards Ltd	69,800	62,000	Steel	110 4	22 3	F. 11′ A. 14′ 0″	195 bbls.	Oil	10 bbls.
Point Hope	130,310	G.66·06, R.44·03 N	1910	Vancouver, B.C.		17,000	17,000	Wood	63 9	16 0	9 6	24 tons	Soft coal	1½ tons.
Petrel	121,974	G.134, N.58	1906	Victoria, B.C.	Victoria Mach'y Depot	35,000	24,000	Steel	86 4	19 0	12 0	120 bbls	Soft coal	12 bbls.
Le Pas		G.23·24, R.15·81	1913	Selkirk	P. W. D.	6,000	6,000	Wood	54 0	12 0	5 0	1½ cords	Wood	1½ cords.

Hecla		*To Marine and Fisheries*												
Vaughan[8]	134,258	G.134·04, R.91·151914	Selkirk, Man.	P. W. D.	17,500	15,000	Wood	90 6	19 6	9 0	16 tons	Soft coal	1 ton.	
Mossy River		G.30·15, R.20·51.1915	Selkirk, Man.	P. W. D.	6,000	6,000	Wood	54 0	11 0	4 6	6 tons	Soft coal	¾ ton.	
Nakusp[7]	126,542	G.10·32 1909	Pingston Creek, B.C.		1,250		Wood	40 5	9 6					
Adirondack		*Sold*												

[2] Estolla Ann Kearney, Wife of W. H. Kelly. [1] 57′ O. A. [4] 13′ 6″ O. A. [3] Rebuilt 1914 at Ottawa, Ont. [6] Rebuilt 1914 at Ottawa, Ont. [5] Formerly Nora. [8] Formerly Sir Hector. [7] Formerly Dorothy Symons. *Loaned to Engineer on Toronto Harbour work.

DEPARTMENTAL TUGS, 1921—*Concluded.*

Name.	Number	Engines. Type.	Engines. Size.	I.H.P.	Engines. Make.	Number	Boilers. Type.	Boilers. Diameter	Boilers. Length	Pressure Allowed.	Condenser. Size.	Condenser. Type.	Size Towing Propeller.	Number of crew	In attendance on.
								′ ″	′ ″						
Helena	1	Triple expansion	14½″, 25⅛″& 41⅛″x25″	580	Collingwood Shipbld'g Co.	1	Scotch	13 6	10 6	180	[2]8′3″x3′4″x1′11″	Surface	9′6″ D.x 11′ P.	11	P.W.D. No. 1
Lisgar	1	Triple expansion	12″, 19″ & 30″x20″	400		1	Scotch	10 6	9 6	180	[3]9′x3′x2′	Surface	7′ D. x 10′ 6″P.	12	P.W.D. No. 6.
Canso	1	Triple expansion	12″, 19″ & 30″x20″	325	New-Burrell-Johnson I. Co.	1	Scotch	10 3	9 6	180	[5]674 sq. ft	Surface	7′6″ D. x 10′ P.	11	P.W.D. No. 2.
Fredericton	1	Compound	12″ x 26″x18″		Polson Iron Works	1	Scotch	10 0	11 0	150	[6]5′x2′6″x3′	Surface	6′ D. x 8′ P.	8	P.W.D. No. 3.
Sogenada	1	Compound	14″ x 30″x21″	300	James Ritchie Patrick.	1	Scotch	9 0	9 0	130	6′x4′x2′	Surface	6′ D. x 9′ P.	8	P.W D. No. 13.
Mabel Reid	1	Compound	10″x18″x14″	200		1	Verticul	5 7	6 6	120	[7]18″x5′5″	Surface	5′ D. x 9′ P.	3	P.W.D. No. 14.
Rona	1	Compound	10″ & 20″x16″		New-Burrell-Johnson I. Co.	1	Upright	5 4	10 6	120	5′4″x18″x22″	Surface	5′6″ D.x 6′9″ P.	6	P. W. D. No. 11.
Eileen	1	Simple	12″x12″		Orr & Sembower	1	Scotch	6 6	7 8	115	[8]		4′4″	3	P.W.D. No. 102.
Alva	1	Compound	9¼″ & 17⅞″x12″		Low Bros	1	Fitzgibbon	[9]4 7	8 1	140	7″x9″x12″	Jet	4′8″	3	P.W.D. No. 103.
Mina G	1	Simple	12″x12″			1	Scotch	6 0	9 0	135			4′7″	3	P.W.D. No. 106.
Aylmer	2	Simple	6″x7″			1	Fitzgibbon	[11]	6 0	152			2′ D. x 3′ P.	3	P.W.D. No. 108.
Hercules	1	Triple expansion	14¼″, 22″& 36″x21″		Polson Iron Works	1	Scotch	12 6	10 6	170	8′6¼″x2′5½″	Surface	8′	9	P.W.D. No. 109.
Archie Stewart	1	Simple	21″x18″		J. & R. Weir	1	Square Fire Box.	7 6	[12]12 6	125			6′6″ D. x 9′6″ P	6	P.W D. No. 123
Marie Louise	2	Simple	8″x9″		F. X. Drolet	1	Horizontal	4 0	4 0				3′4′	3	P.W.D. No. 111
Maggie K.	1	Simple	12″x12″			1	Return Tubular.	[13]	7 5	140			4′4″	3	P.W.D. No. 112.
Cliffside	1	Simple	15″x15″		J. & R Weir	1	Fitzgibbon	[14]	9 3½	140			5′4″	3	P.W.D. No. 113.
St. Paul	1	Compound	12″ & 24″x18″		Knight & Gibson	1		[15]	12 0	133	3′x14″	Jet	6′1″	3	P.W D. No. 114
Monitor	1	3 Cyl. Simple	12″x18″		J. & R Weir	1	Scotch	8 6	9 7	130		Wheeler Surface	5′2″	7	PD.W. No. 115.
Storm King	1	Compound	16″ & 32″x24″		F. X. Drolet	1	Scotch	11 6	8 4	130		Surface	8′4″D x10′11″P	9	P.W.D. No. 115.
Peel	1	Triple expansion	12″, 19″ & 30″x20″		McKie & Baxter	1	Scotch	9 6	11 11	180 bl. 175	[16]10′ long	Surface	8′6″ D.x 9′ P.	8	P.W.D. No. 117.
Dora	1	Simple	10″x12″			1	Tug	4 1	[17]8 0	140			4′6″	3	P.W D. No. 118.
Blanche	1	Simple	10″x12″			1	Fitzgibbon			120			3′6″	3	
Daisy	1	Simple	9″x10″			1	Fitzgibbon	[20]4 0	6 6	125			4′	3	
Delisle	1	Simple	18″x20″		Bell Steam Engine Works.	1	Tug	[21]6 6	12 0	120			6′2″	4	
J. G. Witherbee	1	Compound	18″ & 34″x30″			1	Tug	[22]9 0	13 0	140	3′x4′9″	Admiralty	8′0″ D.x 10′ P	9	
Parkdale	1	Simple	9″x9″		Doty	1	Scotch	5 0	7 0	155 bl. 130			44″ x 76″ P	5	P.W.D. No. 202.
Peguis	1	Simple	12″x12″		Doty	1	Scotch	6 0	7 0	155			5′ D. x 7′ P	5	P.W.D. No. 204.
Friday	1	Simple	12″x14″		Doty	1	Scotch	6 0	7 0	150			5′ D x 7′ P	5	P.W.D. No. 205.
Carberry	2	Simple	10″x10″		Doty	1	Scotch	7 0	9 0				2′-4′	4	
Point Elliee	1	Compound	16″ & 34″x24″	450	Ross & Duncan	1	Scotch	12 0	11 0	150	[23]	Surface	8′3″ D., 10′ P	8	P.W D. No. 301.
Point Garry	1	[24]Imperial	3-8¾″x10¾″		Imperial								4′1″D.x 2′8″ P.	2	P.W.D. No. 305.
Point Grey	1	Compound	17″ & 40″x27″	550	Campbell & Calderwood.	1	Scotch	14 0	12 3	150	[26]	Surface	10′ D.x 10′6″ P	9	P.W.D. No. 306.
Point Hope	1	Compound	9¾″ & 20″x14″	135	John Doty	1	Scotch	7 8	10 7	130	4′4″x2′	Surface	6′ D. x 5′ P	4	P.W.D. No. 307.
Petrel	1	Compound	11″ & 24″x16″	250	Victoria Mach'y Dep.	1	Scotch	9 6	10 10	160	[29]	Surface	94″ D. x 93″ P.	7	General Service Victoria, B.C.

Le Pas	1	High Pressure	9"x9"		Doty	1	Scotch	5 0	7 0				3'8" D x 70" P.	4	P.W D. No. 208
Nakusp.	1	High Pressure	8" x 8"		Return Tubular.	1	Cylindrical	4 6	5 8½	150					
Vaughan	1	Compound	11" x 22" x 15"		Davidson	1	Scotch	9 0	11 0			Jet	6' D x 9' P	4	Supplying dredge lock work.
Mossy River.	1	Simple	9" x 9"			1	Scotch	5 0	7 0				14" D. x 78" P.	4	P.W D. No. 210.

[2] Cooling surface 800 sq. ft. [3] 500 ⅝" tubes. [5] 589 tubes 7' long x ⅝" dia. [6] 571 tubes. [7] 172 tubes. [8] Heater. [9] Wide. [9] Over all. [11] 4' W., 6' H. [12] 9'0" high [13] 4' 7" W. x 7' 4" H. [14] 4' 9" W x 8' 4½" H. [15] 6' W. x 7' H. [16] 427-⅝" tubes, 698·5 sq. ft. cooling surface. [17] 6' 0" H. [18] Wide x 7' H. [19] Wide x 8' 6" H. [20] Wide, 6' H. [21] Wide 9' H. [22] Wide x 11' H Dome 5' 2¾". [23] 485 sq. ft. cooling surface. [25] San Francisco, 3 Cyl., 4 Cycle Gasoline Engine. [26] 800 sq. ft cooling surface. [29] 260 sq. ft. cooling surface.

DEPARTMENTAL GASOLINE TENDERS, 1921.

Name.	Official Registry Number.	Registered Tonnage.	When Built	Where Built.	Builder.	Cost. Equipped.	Present estimated Value.	Hull					Average Speed.
								Material.	Length O.A.	Beam Amidship.	Depth.	Working Draft.	
						$	$		'	"	' "	' "	
.....	.....	.....	1914	.....	.....	350	.....	Wood.....	22	8	.....	2 6	.....
Trent.....	.....	.....	.....	.....	.....	1,000	.....	Wood.....	35	8	.....	.....	.....
Runabout.....	.....	.....	1914	New Westminster, B.C.....	Westminster Marine Rys....	5,870	5,300	Wood.....	40	11	5 6	4 6	9½ M.p.h.
Knockabout.....	.....	.....	1913	Vancouver, B.C.....	W. Menchions.....	5,500	4,500	Wood.....	40	12	5 6	4 6	8 M.p.h.
Roustabout.....	.....	.....	1911	Vancouver, B.C.....	Vancouver Shipyards, Ltd..	2,900	1,900	Wood.....	31	9	3 6	4 0	8½ M.p.h.
Sturdee.....	.....	.....	1914	.....	.....	1,500	.....	Wood.....	42	9	.....	3 6	.....

Name.	Engines.					Propellers.		Fuel.			Number in crew.	Sleeping accommodation for.	Size of Life Boat.	Number of Life Belts.	Where Used.	Remarks.
	Number.	Size.	Type.	Make.	I. H. P.	Number.	Size.	Capacity.	Kind.	Average consumption per day, 10 hr.						
Trent.....	1	(2) 9..	Gasoline..	Fraser Heavy Duty.....	18	1	21".....	80 gal.....	Gasoline.....	6 gal.....	.....	.....	.....	.....	M.P..	*Purchased 1915 from Humphrey
Runabout.....	1	(3) 8 x 10	Gasoline..	San Francisco Standard.	40	..	40" D.x 36" P	450 gal....	No. 1 distillate.	35 gal....	1	.....	.....	4	B.C..	[1] 3 cyl., 4 cycle.
Knockabout.....	1	.....	Gasoline.	Corliss.....	35	1	38" D.x 40" P.	450 gal....	No. 1 distillate.	35 gal.....	1	.....	.....	4	B.C	[2] 3 cyl.
Roustabout.....	1	6x7½ ...	Gasoline[1]	Buffalo "Heavy Duty".	[2]24	1	29" D.x 46" P.	90 gal.....	No. 1 distillate.	22½ gal....	1	.....	.....	1	B.C..	[1] 4 cyl. [2] B.H.P.
.....	1	.....	Gasoline..	Fraser.....	8	1	21".....	15 gal.....	Gasoline.....	2 gal.....	.....	.....	.....	.....	.....	With dredge P.W. D. No. 2.
Sturdee.....	2	.....	.....	Acadia gas engines.....	8	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	With dredge P.W. D. No. 15.

DEPARTMENTAL LAUNCHES, 1921.

When Built.	Where Built.	Built by.	Cost.	Present value.	Hull.				Engine.		Fuel.	In connection with.	Remarks.
					Material.	Length.	Beam.	Depth.	Type.	Horse Power.			
			$	$		′ ″	′ ″	′ ″					
1907...	Danzig, Germany	Shichan & Co....	.....	320	Wood ...	18 6	6 6	2 6	Yale, 4 Cycle	5	Gasoline..	P.W.D. No. 301....	
1912....	North Vancouver, B.C.....	A. Linton.....	448	360	Wood. ...	18 6	6 0	1 11	Ferro, 2 Cycle.....	5½	Gasoline..	P.W.D. No. 303.....	
1911....	Vancouver, B.C.....	Vancouver Shipyards, Ltd	450	225	Wood....	18 6	6 6	2 6	Grey, 2 Cycle.....	8	Gasoline.	P.W.D. No. 307.....	
1914...	Vancouver, B.C.....	Y. M. Dafoe	335	300	Wood.....	20 0	6 0	2 4	Caillie Perfection, 2 Cycle.....	8	Gasoline.	Divers, B.C. ..	
1907....	Danzig....	Shichan & Co.....	451	050	Wood....	18 8	5 0	2 6	Canadian Fairbanks Morse[1]...	8	Gasoline.	Drilling Plant, B.C.	2 Cyl , 2 Cycle.
1913....	.....	.....	300	....	Wood...	22 8	7 4	....	Fairbanks Morse	6	Gasoline..	P. W. D. No. 3.....	
1907....	Selkirk, Man.....	P. W. D	1,200	800	Wood.....	31 0	7 0	3 0	Buffalo, 4 Cycle, 4 cylinders..	.	Distillate.	with Dredges.....	
1907....	Midland, Ont.....	.....	500	400	Wood.....	32 0	8 0	2 6	Defiance, 4 cyl., 4 cycle ...	15	Gasoline..	Survey plant...	2nd hand.
1913. .	Penating, Ont.....	Gidley Allen Boat Co.....	380	400	Wood.....	18 0	5 0	3 0	Ferro, 2 cycle, 2 cylinders.....	..	Gasoline..	Surveys..... .	
1905*...	Chicoutimi..	P. W. D..	800	350	Wood....	27 0	8 0	4 0	Fairbanks..... ...	18	Gasoline..	Steam Derrick.....	*Rebuilt 1912 call. Katherine,
1914 ...	Kingston, Ont.....	Davis Drydock Co., Ltd..	1,950	1,950	Wood. ...	37 0	7 3	42″	Sterling, 2 cyl. 5½″x7″	15	Gasoline..	Harricanaw River improvements.	

DEPARTMENTAL HOPPER SCOWS, 1921

Departmental Number.	When Built.	Where Built	Builder	Cost each.	Present estimated value, each.	Material of construction.	Length.	Breadth.	Depth.	Draft light.
				$	$		′ ″	′ ″	′ ″	′ ″
No. 101 and 102	1907	Collingwood, Ont	Collingwood Shipbuilding Co.	28,000	22,000	Steel	140 0	32 6	11 6	4 0
No. 103 and 104	1907	Toronto, Ont	Polson Iron Works	28,000	22,000	Steel	146 0	32 6	11 6	4 0
No. 105 and 106	1906	New Glasgow, N.S	J. Matheson & Co	11,000	7,000	Steel	106 0	23 0	8 7	4 0
No. 107		Pictou, N.S	Pictou Foundry and Machine Co	10,000	7,000	Steel	107 0	24 0	8 0	3 0
No. 108 and 109	1907	St. John, N.B	Jas. Fleming	11,000	6,000	Iron and steel	111 8	23 9	7 9	3 2
No. 110 and 111					2,000	Wood	72 6	19 8	7 0	3 0
No. 112, 113 and 114, Lost										
No. 151	1897	Point Levis, P.Q	Carrier Laine Co	11,000	5,000	Steel	107 0	22 6	8 0	4 0
No. 152 and 157, Lost										
No. 153 and 154	1906	Yarmouth, N.S	The New Burrill Johnson Iron Co	11,000	7,000	Steel	104 0	22 0	8 0	4 0
No. 155	1906	St. John, N.B	Jas. Fleming & Son	11,000	5,000	Steel	110 0	25 0	8 0	3 0
No. 156	1912	New Glasgow, N.S	Brown Machine Co	14,000	14,000	Steel	77 0	28 0	8 3	3 4
No. 2 and 57, Sold										
No. 10	1913	Ottawa	P.W.D	10,700	10,700	Wood	72 0	22 0	7 0	3 0
No. 11	1913	Ottawa	P.W.D	10,700	10,700	Wood	72 0	22 0	7 0	3 0
No. 12 and 13, Sold										
No. 14	1908	Collingwood	Collingwood Shipbuilding Co.	24,000	21,000	Steel	144 0	32 6	11 9	5 0
No. 15	1907	Collingwood	Collingwood Shipbuilding Co.	24,000	21,000	Steel	146 0	32 6	11 6	5 0
No. 18 and 19	1914	Roberval	P.W.D	3,500	3,000	Wood	60 0	16 4	5 6	2 0
No. 20 and 21	1905	Sturgeon Falls	Tassier and Smith	3,000	5,000	Wood	70 0	19 4	7 0	2 0
No. 22, and 23, Sold										
No. 24 and 25	1906	Buckingham, Que	W. H. Kelly	4,000	3,000	Wood	54 2	14 2	5 5	0′-22″
No. 26 and 27		Ottawa, Ont	P.W.D		3,000	Wood	61 3	16 1	6 0	2 6
No. 28 and 29, Sold										
No. 32 and 33, Sold										
No. 35, Sold										
No. 38 and 39	1909	Toronto	Toronto Ship Yard Co	11,000	12,000	Steel	102 0	28 3	9 0	2 0
No. 40 and 41	1903	Temiskaming Station	Charles Morin	2,000	1,800	Wood	58 0	20 10	5 3	2 0
No. 42 and 43					3,500	Wood	54 5	14 0	5 5	1 6
No. 44 and 45	1899	Ottawa	P.W.D		5,000	Wood	71 3	19 3	26 7½	3 0
No. 48	1912	Grandes Piles, Que	P.W.D	3,000	3,000	Wood	54 0	20 0	6 0	1 0
No. 49	1915	St. Jean des Piles	P.W.D	3,000	3,000	Wood	54 0	20 0	6 0	1 0
No. 50, Sold										
No. 53 and 54	1912	Levis	Geo. T. Davie & Sons	14,850	14,850	Steel	104 5	28 0	9 0	3 8
No. 16		Sorel	P.W.D.		9,000	Wood	90 0	25 0	10 0	2 6
Sold		Ottawa				Wood	72 0	21 0	9 0	2 6
No. 17	1913	Sturgeon Falls	Chas. Williams	4,700	4,500	Wood	70 0	19 4	7 0	2 0
No. 115 and 116	1906	St. John, N.B	J. Fleming, Phœnix Foundry	17,000	14,000	Steel	105 10	24 2	8 3	3 0
No. 201 and 202	1911	Selkirk, Man	P.W.D.	4,500	3,000	Wood	80 0	20 0	7 0	2 6
No. 203 and 204	1911	Selkirk, Man	P.W.D	2,500	1,700	Wood	60 0	16 0	6 0	2 6
No. 205 and 206	1911	Selkirk, Man	P.W.D.	2,500	1,700	Wood	60 0	16 0	6 0	2 6
No. 209 and 210	1910	Winnipegosis, Man	P.W.D.	2,500	1,700	Wood	60 0	16 0	6 0	2 6
	1910	Westbourne, Man	P.W.D.	2,700		Wood	60 0	16 0	6 0	2 6
	1906	Westbourne, Man	P.W.D.	3,000		Wood	60 0	16 0	6 0	2 6
No. 311	1911	Nelson, B.C	Thos. Cunningham	5,000	4,000	Wood	74 3	24 0	8 6	2 0
No. 31		Ottawa	P.W.D			Wood	72 0	19 6	6 5	2 4

No. 30					1,500		71 0	19 7	7 0	2 3
No. 100					1,500		71 9	19 9	7 3	2 2
No. 303 and 304	1911	Vancouver	Charles Mayhew	7,810	8,000	Wood	90 0	24 0	7 3	3 2
No. 305 and 306	1897	Victoria	W. Turpel & Sons	15,000	10,000	Wood and steel	101 6	27 6	10 6	3 0
No. 307	1912	North Vancouver	Charles Mayhew	12,333	8,000	Wood	100 0	27 4	9 8	4 6
No. 308, 309 and 310	1912	Vancouver	Charles Mayhew	12,300	8,000	Wood	100 0	26 6	11 0	4 0
No. 46 and 47		Ottawa	P.W.D.		3,500	Wood				
No. 207 and 208	1914	Le Pas, Man.	P.W.D.	3,000	2,500	Wood	60 0	16 0	6 0	2 6
No. 158 and 159	1913	Ottawa	P.W.D.	10,232	10,232	Wood	72 8	22 3	7 0	2 8
No. 117 and 118	1913	Kingston	Kingston Shipbuilding Co.	32,500	32,500	Steel	144 0	32 7	11 0	4 0
No. 51, 52, 55 and 56	1913	Levis	Geo. T. Davie & Sons	14,850	14,850	Steel	104 5	28 3	10 0	3 6
No. 36 Sold										
No. 1		Sorel	P.W.D.		9,000	Wood	90 0	25 0	10 0	3 0
No. 119					2,000	Wood	60 0	22 6	7 0	2 9
No. 120 and 121					600	Wood	44 9	16 0	5 6	2 0
No. 3 and 4		Chicoutimi	P.W.D.		750	Wood	44 0	20 0	5 6	1 0
No. 122 and 123	1917				1,500	Wood	32 0	16 0	5 6	

[1]No. 45=19′5″. [2]No. 45=7′7″.

DEPARTMENTAL HOPPER SCOWS, 1921—*Concluded.*

Departmental Number.	Draft loaded.	Number of Hoppers.	Capacity each Hopper.	Total capacity.	Hoisting arrangement for Hopper Doors.	Used in connection with.	Province where used.	Remarks.
			Cu. Yds.	Cu. Yds.				
No. 49	5 0	4	10·75	43	Centre rollers	P. W. D. No. 122	Ont. and Que.	
No. 101 and 102	10 6	8	70	560	Side shafts, hand lever purchase	P. D. W. No. 1	Maritime Provinces	
No. 103 and 104	10 6	8	70	560	Side shafts, hand lever purchase	P. W. D. No. 1	Maritime Provinces	
No. 105 and 106	7 0	2	100	193·8	Winch and chain, lever hoist	P. W. D. No. 2	Maritime Provinces	
No. 107	8 0	2	96½	193	Lever	P. W. D. No. 3	Maritime Provinces	
No. 108 and 109	6 3	2	90½	*181	Ratchet and windlass on each end of scow	P. W. D. No. 9	Maritime Provinces	*No. 109=186 cu. yds.
No. 110 and 111	6 0	2	50	100	Tubular barrel and chain, bar and ratchet	P. W. D. No. 10	Maritime Provinces	
No. 151	7 5	2	100	200	Fore and aft winch hoist	P. W. D. No. 6	Maritime Provinces	
No. 153 and 154	6 0	2	91·5	183	Crab winch, with ratchet	P. W. D. No. 7	Maritime Provinces	[1]No. 154 was built in 1907.
No. 155	8 0	2	100	200	Lever	P. W. D. No. 3	Maritime Provinces	
No. 156	7 2	3	56·78	170·34	Hand hoisting gear	P. W. D. No. 13	Maritime Provinces	
No. 10	5 10	2	51	102	Chain and roller	P. W. D. No. 123	Ont. and Que.	
No. 11	5 10	2	49½	99	Chain and roller	P. W. D. No. 123	Ont. and Que.	
No. 14	11 0	8	68·0	544	Steam winding engine 2-6"x8" Horizontal	P. W. D. No. 109	Ont. and Que.	
No. 15	11 0	8	68·0	551·3	Steam winding engine 2-6"x8" Horizontal	P. W. D. No. 109	Ont. and Que.	
No. 18 and 19	5 0	2	32½	65	Chain and wooden roller	P. W. D. No. 111	Ont. and Que.	
No. 20 and 21	7 0	2	50	100	Chain and roller	P. W. D. No. 112	Ont. and Que.	
No. 24 and 25	4 3	2	15	30	Iron rollers worked by hand	P. W. D. No. 102	Ont. and Que.	
No. 26 and 27	5 6	2	33	*66	Wooden roller and chain	P. W. D. No. 103	Ont. and Que.	*Scow No. 27=65 yds.
No. 38 and 39	8 6	5	62¾	314	Chain and roller	P. W. D. No. 117	Ont. and Que.	
No. 40 and 41	4 0	2	18½	37	Steel roller	P. W. D. No. 118	Ont. and Que.	
No. 42 and 43	5 0	4	7¼	29	Eccentric dumper, centre rollers	P. W. D. No. 119	Ont. and Que.	
No. 44 and 45	*5 8	2	**47	95	Hand, centre rollers	P. W. D. No. 120	Ont. and Que.	*No. 45=5'9". No. 45=48 total 96 yds.
No. 48	5 0	4	10·75	43	Centre rollers	P. W. D. No. 122	Ont. and Que.	
No. 50	8 6	6	76·3	458	Chain, hand winding	P. W. D. No. 117	Ont. and Que.	
No. 53 and 54 *(53=309 cu. yd	7 10	5	61·00	318	Chain on roller, side shaft	P. W. D. No. 123	Ont. and Que.	*No. 54 not included with Dredge 123.
No. 16	9 0	6	41·66	250	Wire on roller	*	Ont. and Que.	*Not in use, at Ottawa.
.....Sold	8 6	2	51	102	Wire on roller	P. W. D. No. 116	Ont. and Que.	
No. 17	7 0	2	50	100	Wire on roller	P. W. D. No. 112	Ont. and Que.	
No. 115 and 116	7 9	2	100	200	Hand winding	P. W. D. No. 4	Ont. and Que.	
No. 201 and 202	6 10	2	50	100	Rollers	P. W. D. No. 205	Man., Sask., Alta.	
No. 203 and 204	5 0	2	30	60	Rollers	P. W. D. No. 204	Man., Sask., Alta.	
No. 205 and 206	5 0	2	30	90	Rollers	P. W. D. No. 202	Man., Sask., Alta.	
No. 209 and 210	5 0	2	30	60	Rollers	P. W. D. No. 210	Man., Sask., Alta.	
.....	5 0	2	30	60	Rollers	.....	Man., Sask., Alta.	
.....	5 0	2	30	60	Rollers	.....	Man., Sask., Alta.	
No. 311	8 0	3	45	135	Ratchet and cable	P. W. D. No. 302	B.C.	
No. 303 and 304	7 6	4	55	*220	Hand, pawl and ratchet	P. W. D. No. 307	B.C.	*304=219 yds.
No. 305 and 306	10 0	5	63·6	318	Chain, wire, shaft, hand hoist	P. W. D. No. 301	B.C.	305=298 yds.
No. 31	4 0	2	49	98	Centre rollers	P. W. D. No. 103	Ont. and Que.	
No. 30	5 0	2	49	98	Centre rollers	P. W. D. No. 123	Ont. and Que.	
No. 100	5 0	2	50½	101	Centre rollers	P. W. D. No. 106	Ont. and Que.	
No. 307	8 6	5	55·2	276	Cog hand gear for air or steam	P. W. D. No. 313	B.C.	

No. 308, 309 and 310	10 0	5	52	260	Worm gear operated by air	P. W. D. No. 306	B.C.	
No. 46 and 47	.....	2	30	60	Side dump	P. W. D. No. 121	Ont. and Que	
No. 207 and 208	5 10	2	30	60	Rollers	P. W. D. No. 208	Man.	
No. 158 and 159	6 0	2	51	102	Side shafts	P. W. D. No. 11	Maritime Provinces	
No. 117 and 118	12 0	8	63	505	Side shafts	P. W. D. No. 1	Maritime Provinces	
No. 51, 52, 55 and 56	9 0	5	61	318	Side shafts (56=309 cu. yd.)	P. W. D. No. 110	Ont. and Que	No. 55 not included with Dredge No. 110.
No. 1	9 0	6	41·66	250	Wire on roller	*	Ont. and Que	*Not used, at Ottawa.
No. 119	6 0	2	50	100	Centre rollers	P. W. D. No. 10	Maritime Provinces	
No. 120 and 121	4 6	1	40	40	Centre rollers	P. W. D. No. 14	Maritime Provinces	
No. 3 and 4	5 0	4	12½	50	Centre rollers	Steam Derrick	Chicoutimi	
No. 122 and 123	.....	2	12½	25	Centre rollers	P. W. D. No. 15	Nova Scotia	

DEPARTMENTAL FLAT DECK SCOWS, 1921.

Number.	When built.	Where Built.	Builder.	Cost.	Present estimated value.	Material of construction	Thickness of sides.	Thickness of bottom.	Thickness of deck.	Length.	Beam.	Depth.	Draft light.	Draft loaded.	Used in connection with.	Remarks.
				$	$		"	"	"	′ "	′ "	′ "	′ "	′ "		
No. 500	1914	Pictou, N.S.	William Tulbot	450	450	Wood	3	3	2½	31 0	14 0	4 0	0 8	2 0	P.W.D. No. 5	For removing ashes, etc., from dredge.
No. 501						Wood	4	3	3	50 6	18 7	5 0	3	4 0	P.W.D. No. 119	Coal scow.
No. 502		Sold														
No. 503						Wood	5	4	3	93 0	33 0	9 6	4 0	6 0	P.W.D No. 110	Coal scow.
No. 504		To be used as breakwater														
No. 505		Chicoutimi	P. W. D.			Wood	8	4	3	90 0	28 0	12 9	3 0	8 0	P.W.D. No. 115	Coal scow.
No. 506	1909	Roberval	Johnny Poitras	200	125	Wood	3	3	3	30 0	14 0	2 6	0 10	2 6	P.W.D. No. 111	Used for carrying wood or coal.
		Sold Deschenes			300	Wood	3	3	4	40 0	16 0	3 4	0 6	2 6	P W.D. No. 108	One for fuel and one with cabin for accommodation.
No. 507					1,400	Wood	4	3	3	50 6	20 6	4 9	1 6	4 0	P.W.D. No. 103	
No. 508						Wood	4	3	3	50 0	20 0	4 0	1 0	3 4	P.W.D. No. 122	
No. 509	1906	Buckingham	W. H. Kelly	800	640	Wood	3	3	3	50 0	19 1	4 0	1 2	2 7	P.W.D. No. 102	Coal scow.
		Out of Commission			2,000	Wood	6	4	3	78 6	18 0	9 0	3 0	4 6	P.W.D. No. 113	Out of commission.
No. 510	1913	[1]Ottawa	P. W. D.	1,000	400	Wood	4	2	3	51 0	20 0	5 0	1 3	4 0	P.W.D. No. 112	[1]Shipped knock down and assembled, Sturgeon Falls.
No. 511		Sold														
No. 512	1910	Penticton, B.C.	P. W. D.	350	Nil.	Wood	2	2	2	34 0	14 0	3 3	0 6	0 10	P.W.D. No. 304	Not in use since Oct. 1913.
No. 513	1908	Chase, B.C.	P. W. D.	850	374	Wood	3	3	2	40 0	16 0	3 7	0 6	0 12	P.W.D. No. 309	Fuel scow.
No. 514	1911	Nakusp, B.C.	S. Mills	1,500	1,000	Wood	2½	2½	2¼	60 6	18 4	4 0	1 0	3 0	P.W.D. No. 311	Coal tender.
No. 515					500	Wood	2½	2½	2	51 0	16 0	3 0	0 6	1 2		
No. 516	1911	Nelson, B.C.	Thos. Cunningham	1,500	1,000	Wood	3¼	3	2	60 0	18 0	4 0	1 0	3 0	P.W.D. No. 302	Fuel barge and a forge and shop.
No. 517		Golden, B.C.			0,500	Wood	3	3	2½	50 0	18 0	3 6	0 10	2 6	Snag boat Muskrat and Pile Driver No. 1.	
No. 518	1913	Nelson, B.C.	George Hale	1,653	1,400	Wood	4	3	12	50 0	18 0	4 0	0 9	3 4	Pile driver No. 6	Boarding camp. 12" plank and 1" sheeting.
No. 550		Nakusp, B.C.			400	Wood	2½	2½	2	40 0	20 0	4 6	1 0	1 6	[1]Piledriver No. 4	As boarding camp.
No. 519		Golden, B.C.			850	Wood	3	3	3	50 0	18 0	3 6	1 0	2 6		
No. 520					500	Wood and iron.	6	4	3	86 0	24 0	5 5	1 6	4 6	P.W.D. No. 307	Coal and Cold Storage Scow.
	1913	New Westminster, B.C.	Westminster Marine Railways	3,236	2,700	Wood	4	2½	2	32 6 / 26 6	12 0	2 8 / 2 4	0 10	1 4	P.W.D. No. 305	3 long and 8 short pontoons.
	1911	Vancouver, B.C.	Vancouver Shipyards*	*	*	Wood	4	2½	2	32 6 / 26 6	12 0	2 8 / 2 4	0 10	1 4	P.W.D. No. 305	6 long and 8 short pontoons.
	1910	New Westminster, B.C.	P. W. D.		1,820	Wood	4	2½	2	32 6	12 0	2 4	0 10	1 4	P.W.D. No. 305	14 pontoons.
	1901	New Westminster, B.C.	Royal City Planing Mills			Wood	4	2¼	1¾	34 0 / 24 0	12 0	2 3	0 10	1 4	P.W.D. No. 305	1 long and 11 short pontoons.
	1897	New Westminster, B.C.	P. W. D.			Wood	6	4	3	76 0	24 2	5 0	1 4	4 0	P.W.D. No. 305	Pipe scow.
No. 528	1904	New Westminster, B.C.	P. W. D.		1,620	Wood	5	3	2½	60 0	18 0	4 0	1 8	2 6	P.W.D. No. 305	Power scow, blacksmith and carpenter shop.
No. 529	1910	New Westminster, B.C.	E. Mercer	1,000	630	Wood	5¼	3	2½	45 6	16 6	5 0	1 0	3 0	P W.D. No. 305	Water scow.
No. 521	1904	New Westminster, B.C.	P. W. D.	4,533	3,000	Wood	6	4	3	86 6	27 0	6 8	1 6	5 0	P.W.D. No. 305	Oil fuel scow —cap'y 835 bbls
No. 531	1911	Mahone Bay	O. A. Hanom	400	100	Wood	2	2	2	30 0	15 0	2 9	0 7	1 11	P. W. D. No. 15	Scowing away excavated material.
No. 532						Wood				85 0	24 8	7 0			P.W.D. No. 4	Coal scow with steam hoist Eng. hand winch and three rooms with bunks.
No. 533		Sold														

No. 530....	1917	Nakusp, B.C.....	D. T. Bulger.....	240	240	Wood.....	3	3	3	24 0	12 0	4 0	0 6	2 6	P.W.D. No. 311	Coal scow, 25 tons cap.
.....	....	.....	.....	.....	.....	.....	....	....	....	110 6	32 6	8 0	.....	.....	P.W.D. No. 116	Coal scow.
.....	....	.....	.....	.....	.....	.....	....	....	....	110 0	28 5	10 0	.....	.....	P.W.D. No. 1Q & R.	Coal scow.
No. 522....	1913	North Vancouver.....	Wallace Shipyards Ltd., and Standard Iron Works.	5,600	4,800	Wood.....	6	4	3	66 9	21 0	5	0 10	5 0	P.W.D. No. 306	Oil fuel scow. Cap'y 500 bbls
No. 551 Spoonbill.	1912	Penticton, B.C.....	P. W. D.....	1,600	1,120	Wood.....	3	3	2	40 0	20 0	3 10	0 10	1 4	P.W.D. No. 304	Bunk scow.
No. 552 Mallard.	1914	Chase, B.C.....	P. W. D.....	1,762	1,762	Wood.....	3	3	2	50 0	18 0	4 0	0 10	1 2	Kuspidor.....	Bunk scow.
No. 553....	1913	North Vancouver.....	Wallace Shipyards, Ltd.....	2,800	2,400	Wood.....	5	3	2¾	60 0	23 0	5 3	.....	.....	P.W.D. No. 306	Bunk scow, number of bunks 22.
No. 554....	1912	North Vancouver.....	Wallace Shipyards, Ltd.....	2,500	2,200	Wood.....	6	3	3	61 0	20 9	5 8	.....	.. ..	P.W.D. No. 301	Bunk scow, number of bunks 24.
No. 523....	1913	Victoria.....	Victoria Machinery Depot.....	177	140	Wood.....	....	....	....	18 6	10 0	2 6	.....	.....	.....	Diver's outfit cost $850.
No. 524....	....	.....	.....	.....	.....	Wood.....	4	3	3	59 6	20 6	2 0	1 9	.....	P.W.D. No. 306	Carpenter's Shop.
No. 555....	1912	North Vancouver.....	Wallace Shipyards, Ltd.....	2,500	2,200	Wood.....	4	3	3	53 8	20 8	6 6	.....	.....	P.W.D. No. 307	Bunk scow, number of bunks 12.
No. 525....	1914	Sault Ste. Marie.....	P. W. D.....	1,663	1,600	B.C. Fir..	6	3	3	80 0	20 0	3 6	0 6	.....	Surveys & Sweepings.	
No. 556....	1914	Sault Ste. Marie.....	P. W. D.....	1,663	1,600	B.C. Fir..	6	3	3	80 0	20 0	3 6	0 6	.....	.....	Bunk house.
No. 526....	1914	Sault Ste. Marie.....	P. W. D.....	1,663	1,600	B.C. Fir..	6	3	3	80 0	20 0	3 6	0 6	.....	.....	
No. 527....	1914	Sault Ste. Marie.....	P. W. D.....	1,663	1,600	B.C. Fir..	6	3	3	80 0	20 0	3 6	0 6	.....	.....	

*Long $300 each. Short $200 each.
*Long $235 each. Short $155 each.

DEPARTMENTAL SWEEPING SCOWS.

No.	When built.	Where built.	Builder.	Where used.	Cost.	Present estimated value.	Material of construction.	Hull.			Maximum sweeping depth.	Machinery operated by.
								Length.	Beam.	Depth.		
								′ ″	′ ″	′ ″	′ ″	
1	1908	Ottawa	P. W. D.	Georgian Bay, Ont.	$8,000	$8,000	Wood	62 8	27 3	6 10	47 0	By steam.
2	1914	Ottawa	P. W. D.	Ottawa and St. Lawrence rivers	3,713.11	3,500	Wood	35 0	18 0	3 6	20 0	By hand.
3	1914	St. John, N.B.	P. W. D.	St. John Harbour, N.B.	2,464	3,500	Wood	30 0	13 0	3 6	60 0	By hand.

Water Scow belonging P.W.D. No. 13 lost in July 1920, File 176-3, July 12, 1920.

DEPARTMENTAL INSPECTION BOATS NOT UNDER THE CONTROL OF THE DREDGING BRANCH.

Name.	Official Registry No.	Registered Tonnage.	When built.	Where built.	Builder.	Cost equipped.	Present Estimated Value.	Hull.					Average Speed.	Engines.				
								Material.	Length O.A.	Beam Amidship.	Depth.	Working Draft.		Number.	Size.	Type.	Make.	I.H.P.
						$	$											
Eugene			1915	Brockville, Ont	Harold F. Hodsoa	3,790		Wood	35 0									
D.P.W.			1913	Dartmouth, N.S.	E. F. Williams	5,750		Wood	46 0		4½	5 0				Gasoline		
Margaret			1914		The Midland Coal Dock Co.			Steel frame										
					The Georgian Bay Ship-bldg. Co.			Wooden planks										
					Wm. Carson	15,650		Deck B.C. fir	83 0		11 0	8 2	10 miles p.h.			Marine		160 h.p.
Eleanor			1911	Douglastown, N.B.	Geo. Henderson	3,617		Wood	48 0		9 6	4 6				Gasoline		55-60 h.p.
Kegashka			1914		Dept. of Public Works	9,000		Wood	71 0		8 0	7 0				Gasoline		
Marie Louise			1911		Simard & Parad	2,500		Wood	37 0		8 0	4 0				Gasoline		
Jeannette			1012		Chantier Maritime de Saint-Laurent	3,500		Wood	29 0		5 0	5 0				Gasoline		
Montmorency				Sorel, Que	Mr. Beauchemin	20,000		Wood	66 0		5 8	6 0						21-3 h.p.
Florence				Brockville	St. Lawrence Engine Co. Ltd.	1,300		Wood	29 6			2 6				Gasoline		
Lilliaa			1905	(Has since been destroyed)	Capt. Geo. Bussey—day's labour	500		Wood	26 8		32 0	2 0				2 cylinder		10 h.p.
Daphne			1912		Jos. Hobbs	2,000		Wood	41 0		6 6	2 6				Gasoline		
Cingalee			1905		Capt. Geo. Bussey—day's labour	6,500		Wood	78 0		5 0	7 0			8x16x12	Doty eng.		10·6 h.p.
Nokomis						4,000		Wood	36 0		5 0	4 0				Gasoline		
Meteor			1913	Victoria, B.C.	Point Ellice Boat Co.	600		Wood	25 0		5 6	2 10				Gasoline		
Elvyne			1911	Nelson, B.C.	Thos. Cunningham	1,700	1200	Wood	27 6	4'-2"	3 6	2 3	14 miles p.h.		3 cyl. 4½x5"	Gasoline	1	30 h.p. 2 cycle.
Leila			1914	Prince Rupert	Dept. of Public Works	3,532		Wood	41 0		5 4	3 7				Gasoline		25 h.p.
Thelma			1910	Penetanguishene, Ont.	N. E. Gidley	2,100		Wood	35 0		3 10	2 8				Gasoline		
Senawa Nabee			1911		Fred. S. Heans	8,000		Wood	52 0		6 0	4 0				Gasoline		
Oswegatchie						28,000		Wood	71 0		7½	6 0				Coal		

Roberts Engine Co., Sandusky, Ohio.

DRY DOCKS

CHAMPLAIN DRY DOCK

During the fiscal year, the work consisted more in the rectification of defective works already built than in the construction of new works, and comprised the readjusting and setting to proper grade the feed and return pipe lines of the heating system: an average of 50 per cent of the joints in the granite coping altars, steps and keel slabs were repointed; 1,400 square yards of concrete being defective at the surface were demolished and rebuilt; high spots on the caisson sill were chipped off; 3,000 cubic yards of earth excavation were needed to level up the eastern and western guide piers; on each end of the rolling caisson, the bottom rails were chipped off on the sides to permit easier handling of the caisson; demountable covers were installed over two of the 48-inch Pittsburg gate valves in the rolling caisson, and new spindles were installed on the two valves; on the rolling caisson, 50 feet of the timber bearing strip was renewed; a complete new set of check valves was installed in the non-return valve chamber; a galvanized iron screen was installed at the end of the 16-inch suction pipe; a gate valve was installed in the non-return valve chamber at the end of pipe connecting the non-return valve chamber with the main sump; all the columns supporting the travelling cranes in power-house and pump-house were reinforced; the stoker side frames were reinforced; new bases for the electric capstans were built; the sluice gate valves numbers 3, 4, and 5 were adjusted and made watertight; the tile work in power-house and pump-house was repaired; a small brick building was built over the rolling caisson hauling machinery; a passageway was built in the generator room of power-house underneath the flooring, and the main arches of boilers numbers 5, 6, 7 and 8 were rebuilt.

The contractors started work on the renewal of the two feed pumps and of the engines for the condensors.

Expenditure for the fiscal year is $32,595.64.

ESQUIMALT GRAVING DOCK

During the fiscal year 1920-21, thirty ships were docked for cleaning, painting and repairs, leaving a revenue of $26,253.30. Besides docking and undocking the above ships the staff has been employed in keeping the dock and plant in good repair so that no delay was caused to ships seeking accommodation.

Although the pumping plant shows signs of age and requires minor repairs from time to time no serious breakdown is anticipated in the near future.

The chief engineer's residence needs renewal and the long shed is in need of repair, all other buildings being in good condition.

The derrick used by contractors for landing material over the dock gate is not a particularly satisfactory procedure as it involves the possibility of damage to the dock gate at some time.

Macadam surfacing was provided on the westerly side of the dock to the engine-room, and this work was carried out by arrangement with the Esquimalt municipality at a cost of $771.14.

The amount expended during the fiscal year ending March 31, 1921, was $21,994.74.

HAILEYBURY DOCKYARD

P.W.D. dump scow *No. 40*, which was loaned, in 1918, to the Ontario Department of Public Works and returned to dockyard in October, 1919, was blocked up (April 21-22) for an indefinite period.

During the month of June, a 52-inch Page fence, with two 12-foot and one 3-foot gates, was erected between roadway and dockyard property and the three rope-houses at large shipways were covered with tarred felt roofing.

The service dock was damaged by ice moving on Lake Timiskaming last April, nine piles being broken. In view of existing conditions as to public works on the lake, it was found unnecessary to restore this wharf to its former dimensions. The damaged portion was partially demolished October 22—November 5, five broken piles being removed, and the building of a new landing face was started in driving one corner pile and placing round timber waling at east end. Part of the dredging plant, viz., dredge bucket, dipper arm, spud shoes, chains, etc., was removed from dock and stored in yard. Work completed March 14-18 consisted of removing the remaining broken piles and placing four short fenders, 10 by 10 by 5 feet.

The departmental construction and dredging plant was accommodated here, as in the past.

BRIDGES AND ROADS

OTTAWA-HULL, UNION BRIDGE

Work on contract, dated April 30, 1919, was resumed by the Dominion Bridge Company, Limited, April 26, 1920, but, due to labour troubles, active construction was delayed one month. The sidewalk extending along the downstream side of bridge and approaches was completed July 2 and the painting of the structure finished August 11.

A concrete retaining wall and piers supporting sidewalk of the Ottawa approach, catch basins and anchorage of the brackets in rear of masonry wall of Hull approach, together with alterations to connect up the existing sidewalks to the new sidewalk and some temporary grading on the approaches, were done by the contractors at an extra cost of $1,813.40.

An amount of $277.10 was allowed as extra for stiffening the upstream roadway fence on bridge and filling the space between the curb and fence by means of a 5 by 5-inch continuous angle.

The sum of $200 extra was paid the contractors for raising and straightening the pipe railing on the Hull approach and to place two panels pipe railing on the Ontario side, attached to the batter post in the same manner as on the Quebec side.

A contract plan and specification were prepared in connection with proposed improvements to roadway approaches and for concrete revetment of old masonry back of the Hull abutment. Tenders were called, but the department, after having this matter under consideration, decided to postpone the improvements until next season.

Some 16,000 stone paving blocks, which had been removed from the bridge approaches by the Ottawa Electric Company when shifting tracks in the fall of 1919, and stored temporarily at the company's power-house, had to be removed by the department, in October, at a cost of $101.20, and were stored on departmental property.

The old Union Bridge metal, 374,000 pounds, was sold to the highest bidders, Messrs. Baker & Betcherman, at $30.25 per gross ton, the proceeds of the sale amounting to $5,050.67.

Two 600-candlepower series lamps on low tension wires were installed on the new bridge by the Marchand Electrical Company, whose tender of $585 for this work was the lowest. The Ottawa Hydro-Electric Commission furnish the current free, and installed a special transformer in order to connect these lamps to the city lighting system.

In November, one of the lamps on the Hull causeway was moved north of the bridge, to better light the northbound vehicular traffic at point of crossing the Ottawa Electric Railway Company's tracks.

Expenditure during the fiscal year, $24,320.53.

ONTARIO AND QUEBEC

North Timiskaming

A contract was awarded May 20, 1919, to the Hamilton Bridge Works Company, Limited, for the erection of traffic bridge across the Quinze river, consisting of two through truss spans, each 238 feet 1¾ inches long, and two deck spans, each 75 feet long, with concrete roadway 17 feet 2½ inches wide.

Work had to be discontinued during the winter months, and was resumed May 19. The concrete flooring, as well as the painting of bridge, was completed by the Hamilton Bridge Works Company, Limited. Railings on approach roadways were built and the approaches were graded with road metal, at a cost of $828.45. The bridge was opened to traffic July 10.

Expenditure during the fiscal year, $14,098.45.

ALBERTA

Banff Bridge

A new bridge 420 feet long, 56 wide and 82 feet above water-level, consisting of four spans 88½ feet each and two approaches, was placed under contract. The substructure, approach spans, roadways, sidewalks, fences, etc., to be built by the Fegles Construction Company, Limited, for the sum of $169,900, and the structural steel to be supplied by the Dominion Bridge Company, Limited, for the sum of $73,886.

Work done during the fiscal year amounted to $51,183.59.

OTTAWA RIVER STORAGE

At Quinze dam, the concrete at the upstream ends of the piers had been eroded from a few inches to nearly three feet in depth. Semi-circular steel plates were delivered in 1919, but it was not possible to place them until August and September. A coffer dam had to be built at each of the eighteen piers; rich concrete, made of materials washed in caustic soda, was inserted between the steel plates and the piers making a very thorough job. The stop-log recesses were repaired the previous autumn and it only remains now to place steel plates just downstream from the log checks. From time to time, improvements were made to the five miles of road leading to the dam.

Timiskaming dam was examined for scour below the Quebec sluices, at end of March, 1920; the soundings were made with an old spud off the log lifter, the steel I-beam was 9 by 9 inches and 40 feet long. There was no evidence of scour and it seems as though the trouble has been overcome in both the Quebec and Ontario channels. The levels taken in April, 1920, showed that piers numbers 1 and 2, Quebec channel (where break occured in 1914) have settled 0·07 feet during the year; the total settlement of number 1 pier has been 2·1 feet and of number 2 pier 1·4 feet.

During the spring of 1920, floating ice affected the dam for the first time and carried away the western entrance boom, breaking off 70 feet; the whole boom was 400 feet long and 4 feet wide consisting of 12 by 12-inch Douglas fir timbers bolted together. The broken part of the boom was recovered at Beauchesne and brought back by rail to Timiskaming in March, 1921; since then it has been reframed and placed in its former position leading to the log pass.

The supply to the reservoir in 1920 came in the springtime only, there being no autumn rise. This, combined with the fact that the Quinze sluices were undergoing repairs, and little storage could be held, caused a shortage at the Chaudiere mills; there was only 15,000 c.f.s. in October, 17,000 c.f.s. in November and 14,000 c.f.s. in February, but even this was practically double the extreme low flow before the reservoirs were built. Another factor diminishing storage is that since the war labour has been scarce and a heavy flow to flush the log drive through has been demanded. There being no dam below Timiskaming, levels cannot be maintained without large expenditure of water; thus a decrease from 16,000 c.f.s. to 13,200 c.f.s. at Timiskaming lowers the water nearly 1½ feet at points 80 miles farther downstream. Regulations will eventually be required to govern log driving and 15,000 c.f.s. below Timiskaming might be considered as a normal flow. Generally, much more is available during July and August.

The following tables indicate that there should not be a greater flow from Timiskaming than 15,000 c.f.s. and 7,000 c.f.s. from Quinze unless overflow is threatened.

MEAN C.F.S. QUINZE BY MONTHS 1909-20.

Year.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March
1909	.....	.....	37,900	15,000	12,500	11,200	11,500	11,600	9,200	6,600	4,700	4,000
1910	18,000	24,400	17,800	9,300	6,900	8,400	15,700	14,400	9,000	6,700	4,100	3,000
1911	5,000	35,700	22,000	9,200	6,800	5,100	4,500	9,800	10,100	7,800	5,300	3,600
1912	6,000	31,200	34,400	18,600	8,900	7,800	10,400	11,400	8,900	6,300	4,900	4,100
1913	13,000	36,500	20,900	9,600	6,500	6,000	8,400	14,600	15,000	8,400	5,600	4,000
1914	4,100	20,900	16,300	7,800	3,700	2,500	2,500	3,400	4,600	4,300	3,500	2,800
1915	6,000	23,400	21,900	12,600	12,600	5,200	9,100	8,700	9,000	7,100	6,100	5,100
1916	11,400	46,800	30,200	14,900	6,200	4,300	4,500	11,400	10,000	10,000	8,200	4,500
1917	5,800	32,400	36,000	25,300	17,200	13,500	9,400	10,900	9,200	5,100	3,700	3,200
1918	7,500	29,100	25,300	17,200	9,500	8,100	10,300	15,000	15,300	13,000	12,200	5,700
1919	14,300	39,200	34,300	16,100	7,000	11,000	14,400	14,700	15,600	15,700	8,900	6,000
1920	15,800	25,000	18,300	13,800	6,400	4,300	3,300	4,500	4,800	4,700	3,800	3,200
Average	9,700	31,300	26,300	14,100	8,700	7,300	8,700	10,900	10,100	7,900	5,900	4,100

NOTE.—Rock fill dam closed February 1914, and dam completed October 1914.

MEAN C.F.S. TIMISKAMING BY MONTHS 1911-20.

Year.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March
1911	9,800	61,400	47,900	21,000	13,400	10,300	8,500	14,100	17,400	14,900	11,000	11,600
1912	12,700	53,400	54,700	29,300	17,900	12,300	15,000	17,100	14,800	16,100	17,500	13,300
1913	15,700	57,100	30,500	18,000	16,200	13,500	12,000	21,900	29,200	19,000	18,300	15,600
1914	13,100	33,600	28,300	17,300	9,700	7,100	5,200	5,400	6,700	7,200	6,600	6,100
1915	8,200	27,300	30,400	21,900	16,300	13,100	14,700	15,400	16,600	15,700	14,900	15,200
1916	33,600	72,100	40,900	23,300	15,500	10,900	9,500	15,200	14,500	15,300	17,000	15,700
1917	16,500	56,300	59,700	40,400	26,200	21,900	17,800	16,700	17,000	15,400	13,700	10,200
1918	17,500	41,100	37,200	26,100	19,800	17,900	27,600	39,400	25,200	20,700	22,600	16 400
1919	34,900	71,700	49,600	21,100	16,700	18,000	28,500	30,500	29,600	23,700	20,700	16,700
1920	29,700	39,700	25,500	21,200	16,000	13,200	9,800	9,400	10,400	9,500	9,500	9,300
Average	19,200	51,400	40,500	24,000	16,800	13,800	14,900	18,500	18,100	15,800	15,200	12,900

Metering has been carried on during the whole season on the Ottawa and the St. Lawrence rivers and a list is attached recording the locatious of sections.

The work on the Ottawa has been chiefly at Vaudreuil to fix the effect upon the St. Lawrence, while on the tributaries, the measurements have been chiefly confined to the Gatineau and to the Rideau; the latter will be valuable when the time comes to examine into flood conditions and design remedial works. The St. Lawrence party made 240 measurements of the main river and 120 of the tributaries between Brockville and Montreal. Data is now available for storage problems on Lake Ontario, for questions concerning the Massena power abstraction, for the damming of the main river and for effects on Montreal harbour.

LIST OF METERINGS MADE IN 1920-21

St. Lawrence river, Brockville, whole river	1
" " Galops rapids, United States Channel only	6
" " Toussin Island, north channel only	6
" " Point three points, whole river	46
" " Croil-Delaney Island, Big Sny	29
" " Tracy Point, south sault	22
" " Croil Island, Canadian channel	39
" " Croil Island, United States channel	51
" " Cornwall Island, Canadian channel	4
" " Cornwall Island, United States channel	4
Massena canal, N.Y.	34
Grass River, N.Y.	2
Racquet river, N.Y.	4
St. Regis river, N.Y.	3
Several creeks, Aultsville to Cornwall	67
Rasin river, Lancaster, Ont.	2
Sutherland creek, Bainsville, Ont.	1
Gunn creek, Bainsville, Ont.	1
Wood creek, Bainsville, Ont.	1
Beaudette river, Beaudette station	2
Delisle river, Coteau du Lac	2
Rouge river, Coteau du Lac	2
Chateauguay river, Chateauguay station	1
Ottawa river below Chaudiere	2
Ottawa river, Besserer's Grove	1
Ottawa river, Vaudreuil, lower section	29
Ottawa river, Vaudreuil, upper section	165
Ottawa river, St. Anne	88
Aumond creek, Klock station	1
DuMoine river, one mile up	7
Rideau river, Hurdman bridge	24
Gatineau river, Alcove, Que.	89
Peche creek, Wakefield, Que.	7
Meach lake, Farm Point, Que.	8
Total	780

During the fiscal year, a special report was published covering the work done from April, 1915, to April, 1920, thus bringing the whole work record of both reservoir dams and the meterings into convenient form for analysis.

GOVERNMENT TELEGRAPH SERVICE

D. H. Keeley, General Superintendent

Location of Lines.	Year Constructed.	Length of Lines.			No. of Offices.	Messages Sent.	
		Miles of Pole Line.	Miles of Wire.	Cables.		1920.	1921.
Newfoundland	1883	14	14	.....	2	.....	.....
Nova Scotia	1880–1916	824¼	950¼	30½	164	28,582	34,311
New Brunswick—							
Chatham-Escumianc	1885–1919	86½	109¾	.....	27	6,107	6,970
Bay of Fundy	1880–1916	64¾	82¼	35	21	5,506	5,525
Quebec—							
Magdalen Islands	1880–1910	111½	140	73¼	20	4,644	4,232
Anticosti Island	1881–1890	251½	251½	65¼	9	678	853
North Shore St. Lawrence	1881–1915	1,082	1,082	5½	77	58,469	64,012
Chicoutimi District	1881–1912	479	479	.....	36	.....	.....
Quarantine System	1885–1912	54¾	152¼	24½	17	11,413	12,552
Quebec County	1909–1914	73	97½	.....	9	9,105	10,656
Timiskamiag	1910–1912	104	104	.....	18	2,015	2,650
Ontario—							
Pelee Island	1889–1901	.....	.....	17½	.....	512	497
Saskatchewan—							
Moose Jaw-Willow Bunch	1885–1912	179	212	.....	7	.....	.....
Battleford-Ile-Lacrosse	1912	288	298	.....	8	28,776	27,089
Qu'Appelle-Onion Lake	1883–1913	457	518	.....	12	.....	.....
Alberta—							
Onion Lake-Hudson Hope Loops and Branches	1883–1915	863½	1,105	.....	54	70,707	66,874
Athabaska-Fort McMurray and Branches	1914–1915	313	313	.....	7	.....	.....
British Columbia—							
Mainland	1899–1920	1,604	2,814	13½	333	129,880	147,375
Vancouver Island	1896–1914	1,254¾	1,501	89¼	163	128,060	132,079
Yukon—							
Ashcroft-Dawson-Boundary and Branches	1899–1916	2,988	3,308½	.....	249	99,892	120,796
Queen Charlotte Island	1913–1914	113	113	.....	15	.....	.....
Total	.....	11,205½	13,645	354¼	1,248	584,346	636,471

The difference in mileage between that given in the annual report for 1919-20 and 1920-21, is due to "pole mileage" and "wire mileage," having been in some instances confused. To obviate such errors in future the "pole mileage," and "wire mileage," will be, as in this case, given separately.

TELEGRAPH SYSTEMS OF THE DOMINION.

As a matter of general interest, pursuant to the statement submitted last year, the latest figures to hand showing the extent of telegraph lines in operation in the Dominion are as given hereunder:—

Canada.	Length of Lines in Miles.				Length of Conductors in Miles.				
	Aerial.	Underground.	Submarine.	Total.	Aerial.	Underground.	Submarine.	Total.	No. of Offices.
1920–21.									
Great NorthWestern Telegraph Co.	20,124	10	14	20,148	88,139	338	103	88,580	1,650
Canadian Pacific Telegraph	14,553	50	94	14,697	123,022	1,475	224	124,721	1,519
Government Telegraph Service	11,205½	.....	354¼	11,559¾	13,645	.....	354¼	13,999¼	1,248
Grand Trunk Pacific Telegraph	2,818	1	1	2,820	13,761	18·25	2·19	13,781.44	148

REVENUE AND EXPENDITURE.

The revenue and expenditure for each of the Government lines in the several districts hereinbefore mentioned are given in the following table:—

EXPENDITURE, 1920–21

Telegraph and Telephone Lines.	Construction and Improvements	Repairs	Staff and Maintenance	Total	Revenue
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Cape Ray—Newfoundland	.....	.....	250 00	250 00	.....
Maritime Provinces—					
Bay of Fundy lines	.....	.....	5,950 63	5,950 63	1,685 64
Cape Breton lines	327 50	2,751 26	48,297 14	51,375 90	9,344 77
Chatham-Escuminac line	.....	.....	1,936 02	1,936 02	956 92
Prince Edward Island and mainland cable	.....	.....	7,186 66	7,186 66	.....
Prince Edward Island, contribution of half cost of reconstruction of telegraph lines jointly owned by the Anglo-American Co. and the Dominion Government	4,745 63	.....	.....	4,745 63	.....
Quebec Mainland—					
Dorchester County lines	.....	.....	9 37	9 37	5 40
North shore, east of Bersimis	.....	.....	37,970 29	37,970 29	15,425 07
North shore, west of Bersimis	.....	.....	21,815 58	21,815 58	3,328 92
Quebec county lines	.....	.....	5,613 55	5,613 55	1,723 23
Timiskaming lines	.....	.....	4,489 07	4,489 07	683 59
Quebec Islands—					
Anticosti system	.....	.....	11,010 94	11,010 94	962 16
Cable ship *Tyrian*	.....	.....	106,843 84	106,843 84	.....
Grosse Isle, Isle aux Coudres and Island of Orleans system	.....	.....	9,629 55	9,629 55	832 66
Magdalen Islands system	.....	.....	9,018 42	9,018 42	2,458 12
Maritime Provinces and Gulf generally	.....	.....	5,023 70	5,023 70	.....
Maritime Provinces Generally—Purchase of submarine cable to replenish stores	5,120 89	.....	.....	5,120 89	.....
Ontario—					
Bath—Amherst Island system	637 00	.....	.....	637 00	.....
Pelee Island system	.....	.....	4,771 10	4,771 10	84 80
Saskatchewan and Alberta—					
Saskatchewan lines	.....	6,548 60	72,629 03	79,177 63	8,651 72
Alberta lines	.....	4,680 40	111,310 86	115,991 26	40,063 66
British Columbia and Yukon—					
Ashcroft-Dawson system	.....	5,885 34	289,789 97	295,675 31	133,276 58
British Columbia Mainland system	5,787 50	21,693 55	98,156 75	125,637 80	58,963 36
British Columbia—Vancouver Island system	.....	7,190 37	152,776 81	159,967 18	52,023 83
British Columbia—Vancouver Island system—Purchase of submarine cable to replenish store	12,379 11	.....	.....	12,379 11	.....
Telegraph Service Generally	.....	.....	1,015 62	1,015 62	.....
Totals, Telegraph and Telephone Lines	28,997 63	48,749 52	1,005,494 90	1,083,242 05	330,470 43

DEPARTMENTAL TELEPHONE SERVICE.

Up to date of this report (April 1, 1921) the telephone connections with the central office of the Bell Telephone Company at Ottawa, listed as chargeable to the special appropriation, numbered 1,986, the annual charge for which amounts to $77,127.52. The connections are distributed amongst the several departments, as hereunder.

Department.	Number of Telephones.				Total.	Cost per Annum.
	Office.		Residence.			
	Direct	Extn.	Direct	Extn.		
						$ cts.
Agriculture	41	61	8	3	113	3,186 04
Air Board	1	1	.....	.....	2	64 90
Air Board Private Branch Exchange	24	.....	.....	.....	24	781 60
Auditor General	15	12	.....	.....	27	931 04
Canadian Trade Commission	2	.....	.....	.....	2	103 40
Chief Electoral Officer	1	1	.....	.....	2	62 70
Civil Service Commission	25	13	4	1	43	1,595 00
Conservation Commission	6	10	1	.....	17	493 02
Council Sub-Committee Re-Organization and Efficiency	7	.....	.....	.....	7	361 90
Customs	26	7	3	.....	36	1,512 94
Dominion Archives	4	4	1	1	10	298 10
Exchequer Court	2	3	.....	.....	5	140 80
External Affairs	13	5	3	2	23	854 70
Finance	5	6	2	.....	13	369 94
Finance Private Branch Exchange	46	.....	.....	.....	46	2,649 92
Government House	7	1	3	4	15	627 00
Government House Private Branch Exchange	18	.....	.....	.....	18	2,544 00
Government House Private Line	.....	.....	.....	.....	.....	135 30
Health	2	2	.....	.....	4	127 60
Health and Statistics Private Branch Exchange	31	.....	.....	.....	31	1,766 86
House of Commons	2	.....	3	2	7	419 10
House of Commons and Senate Private Branch Exchange	86	.....	.....	.....	86	5,981 91
House of Commons and Senate Private Branch Exchange, Sessional	229	.....	.....	.....	229	3,679 01
Immigration and Colonization	15	9	1	.....	25	924 00
Indian Affairs	12	.....	1	.....	13	656 70
Industrial Research Council	2	1	.....	.....	3	119 24
Inland Revenue	11	3	1	.....	15	637 34
Interior	131	43	3	1	178	7,539 84
Interior Soldiers' Settlement Board	17	10	.....	.....	27	1,013 54
Insurance	.....	.....	1	.....	1	29 70
Justice	21	11	6	.....	38	1,419 00
Labour	7	13	3	1	24	636 24
Library of Parliament	.....	.....	2	1	3	70 40
Marine and Fisheries	1	1	3	1	6	162 80
Marine and Naval Private Branch Exchange	101	.....	.....	.....	101	4,088 10
Militia and Defence	14	8	3	2	27	936 54
Militia and Defence Private Branch Exchange	186	.....	.....	.....	186	7,707 01
Mines	26	11	1	1	39	1,539 78
Mines Private Branch Exchange	36	.....	.....	.....	36	1,845 13
Naval	3	.....	1	.....	4	180 40
North West Territories	1	2	.....	.....	3	75 90
Patents	6	2	1	.....	9	361 90
Patriotic Fund Committee	1	3	.....	.....	4	91 30
Post Office	45	9	6	1	61	2,621 30
Printing and Stationery	2	1	.....	.....	3	116 60
Printing and Stationery Private Branch Exchange	49	.....	.....	.....	49	1,393 48
Privy Council	7	2	4	.....	13	490 60
Public Works	63	25	5	2	95	3,783 34
Purchasing Commission Private Branch Exchange	12	.....	.....	.....	12	1,486 62
Railways and Canals	18	7	7	.....	32	1,228 70
Royal Canadian Mounted Police	37	15	2	1	55	2,146 10
Secretary of State	15	6	2	.....	23	933 24
Senate	.....	.....	2	1	3	68 20
Soldiers' Civil Re-Establishment	4	1	2	1	8	456 50
Soldiers' Civil Re-Estnblishment Private Branch Exchange	93	.....	.....	.....	93	2,405 40
Supreme Court	1	2	1	1	5	92 40
Trade and Commerce	19	9	3	2	33	1,182 50
	1,548	320	89	29	1,986	77,127 52

NEWFOUNDLAND

The line from Port au Basque to Cape Ray continues to be operated as heretofore under an arrangement with the Anglo-American Telegraph Company.

CAPE BRETON

The various lines comprising the Cape Breton System, consisting of telegraph and telephone circuits have been satisfactorily maintained during the past year. The volume of business shows a marked increase over any of the previous years due largely to active operations in new coal areas as well as to the increased demand for pulp wood. There have been no delays to business due to prostration of lines. Four telegraph offices were closed, eight agents were changed through resignations, four general repairers were changed and six new telephone offices were opened on a rental basis of $9 per annum.

BAY OF FUNDY

Both telegraph and telephone circuits worked well during the past year. On the many short stretches of cable forming part of this system only four interruptions took place during the year. repairs were effected without delay.

CHATHAM-ESCUMINAC

This line, which was built in 1885, and operated as a telegraph line with six offices on its circuit is now operated as a telephone line with twenty-seven offices.

MAGDALEN ISLANDS

The telephone system now in use remains the same.
The Meat Cove cable has given uninterrupted service throughout the year.
There have been no serious interruptions to the service during the year.

ANTICOSTI

The usual repairs were effected during the year. Although the weather was rather severe as a whole during last season the service given was continuous. The revenue was almost double that of the previous fiscal year.

NORTH SHORE ST. LAWRENCE

These lines received a thorough overhauling under the supervision of the general repairers, over five hundred poles being renewed and two thousand braces put in. The working condition of the lines has been very satisfactory. No new construction or new offices opened.

QUARANTINE LINES

Much trouble was had during the past season with the cables forming part of this system due to ice crushes but repairs were effected in all cases with the least possible delay. In effecting these repairs about two miles of cable was used. Notwithstanding heavy snow and sleet storms the land lines gave good service throughout the year. No changes in location or extensions were made.

QUEBEC COUNTY LINES

A large amount of work was done during the year in repoling these lines with cedar and it is expected that the whole system will be completed during the coming season. The improvement in the service is shown by an increased revenue and an addition of eleven subscribers against three withdrawals.

TIMISKAMING

Apart from the usual repairs nothing of importance is to be reported in the way of changes on this system. The lines gave good service all the year. No new offices opened or change of location took place.

PELEE ISLAND

The cable connecting Pelee Island to the mainland at Leamington gave good service until the end of November, 1920, when it was broken by a ship's anchor being drawn through. Due to the lateness of the season and the ruling inclement weather repairs were deferred until this year.

SASKATCHEWAN

Notwithstanding the exceptional rain and snowfalls which occurred in the course of the year the lines were maintained in satisfactory working order. There are no changes to report in the personnel or location of offices.

ALBERTA

During the year, severe storms, floods and bush fires caused considerable damage especially between Athabasca and Pelican where a stretch of forty miles had to be practically rebuilt. Temporary repairs were effected as quickly as possible so that no serious delays to business occurred.

During the year, a loop consisting of 3½ miles of pole line and seven miles of wire was constructed from a point on the Pouce Coupe-St. John line to Rolla, B.C., and an office installed at the latter place on a commission basis. Due to the scarcity of labour and the high cost of same as well as of materials only the most necessary repairs were effected.

BRITISH COLUMBIA MAINLAND

Good service was given over this system during the past year. Business has been very satisfactory showing an increase in revenue over the previous year of 24 per cent.

Apart from ordinary repairs and improvements on the various lines forming this system the following new extensions were constructed during the year:—

	Miles
Slocan Junction to Slocan City	35
McKnights to Adams lake via Blucher lake	23
Merritt to Kingsvale	18
Windermere to Fairmont Springs	18
Narrow lake to Lush lake	4
Okanagan Falls to Mathison wharf with extensions	21
	119

Ninety-four new offices were opened during the year and thirty-four closed—an increase of 60.

VANCOUVER ISLAND

The various lines comprising this system were operated satisfactorily during the past year. On the few occasions when trouble occurred on land lines or cables, repairs were effected with a minimum of delay and expense. Eleven new offices were opened and two closed during the year, making an increase of nine.

YUKON SYSTEM

The operation of the main line during the past year has been satisfactory in every respect. The usual repairs were carried on during the year and lines brought up to the usual good condition.

The following lines were built during the year:—

	Miles
Clinton-Keely lake	10
Burns lake-Francois lake	15
	25

The former is the first section of the proposed new line Clinton to William's Lake and the latter the second section of the proposed Burns Lake-Ootsa Lake-Houston line.

CABLE SHIP "TYRIAN"

On April 1, 1920, the cable ship *Tyrian* had on hand 14·30 knots of D.S. cable to which was added during the season the following:—

		Knots
1920		
April	1—On hand	14·30
	12—Picked up at Kent Island	·60
May	11—Picked up at Long Eddy	4·45
	15—Repaired on board	·60
Aug.	13—Received from *Camino*	5·50
Sept.	23—Picked up Bryon Island	9·16
1921		
Jan.	5—Received from *Ariano*	3·87
	Total	38·48

which were utilized as follows:—

		Knots
1920		
April	2—Laid Big Wood Island	1·10
	12—Laid Kent Island	1·53
May	2—Laid Gannet Rock	2·59
	15—Laid Long Eddy	4·60
	15—Condemned	1·00
	18—Laid Eastport, Campobello	.10
June	6—Laid Scatari Island	·10
July	7—Laid Tadousac	·05
	10—Laid S. W. Point, Anticosti	·05
	15—Laid St. Paul Island	·10
	30—Laid Seal Island	8·70
Aug.	27—Laid Petite Passage, N.S.	·42
Sept.	23—Laid Bryon Island	10·50
	23—Reduced to boat cable	·25
	23—Condemned	·09
		31·18
1921		
March	31—On hand	7·30

Operations of SS. Tyrian, 1920-21

1920

April 1—Anchored at Seal Cove Grand Manan, repairing Big Wood Island cable.
2 and 3—Completed the above repair.
3—Blowing too hard for work, went to North Head.
4—Sunday.
5—Went to Gannet Rock and located fault; blowing too hard, went back to Seal Cove for shelter.
6—Strong wind and heavy sea.
7—Went out and found sea too heavy for work.
8, 9 10—Repairing Kent Island—Little Wood Island cable.
11—Sunday
12 to 19—Awaiting chance to repair Gannet Rock cable.
20—Went to St. John, N.B. for coal and provisions.
21 to 26—At St. John. Got coal and supplies.
27—Sailed for Gannet Rock.
28 to May 3—Repairing Gannet Rock cable.

Operations of SS. Tyrian, 1920-21—Continued.

May 4 and 5—Repairing Duck Island cable.
6—Repairing Chaneys Island cable.
7—Repairing White Head Island cable.
8 to 16—Repairing Long Eddy-Herring Bay cable.
17—Repairing East Port-Campobello cable.
19—Went to Grand Passage, N.S., and found no trouble there.
20 to 23—At Halifax. Coaled and provisioned ship.
24—Went to Prince Edward Island.
25 to 28—Repairing Caribou-Wood Islands cable.
29—Went to Cape Tormentine and found no trouble.
30—Sunday, at Charlottetown.
31—Went to Pictou Island.

June 1—Making Survey for cable to Pictou Island.
2—Removed leaky joints (Factory splices) Caribou-P.E.I.
3—Went to Pictou, N.S.
4—In Pictou.
5—Sailed for Scatari Island. Went in to Louisburg.
6—Repaired Scatari cable and sailed for Halifax, N.S.
7—Arrived at Halifax.
18—Went on Marine Railway.
21—Came off slip.
28—Sailed for North Sydney.
29—Arrived at North Sydney.

July 3—After coaling and provisioning the ship, sailed for Tadousac, Que
4—At sea.
5—Arrived at Tadousac.
6 to 8—Repairing Tadousac cable.
9—Enroute to Fox River, Que.
10—Repairing South West Point Anticosti cable.
11 and 12—At Gaspe.
13—Sailed for repair of St. Paul Island cable.
14 to 23—Repairing St. Paul Island cable.
24—Cleared for Halifax, N.S.
25—Arrived at Halifax.
26 and 27—At Halifax.
28—Sailed for Seal Island cable repair.
29 and 30—Repairing Seal Island cable.
31—Cleared for Petite Passage and received wireless to go to Halifax to take cable aboard.

Aug. 1, 2 and 3—Fog bound in Bay of Fundy.
4—Got into Shelburne, N.S.
5—Still foggy.
6—Examined Cape Negro Island cable.
7 to 11—Fog bound.
12—Came to Halifax to receive cable.
13—Took cable from *Camino*.
14 to 18—Thick fog.
19—Went to Tancook, N.S.
20 to 23—Repairing cable to Tancook.
24—Went to Coffin Island and repaired cable.
25—Went to Half Moon Island and repaired cable. Went to Hawkes Inlet and made small repair.
26—Sailed for Petite Passage, N.S.
28—Repaired Petite Passage cable and sailed for North Sydney, N.S.
29—At sea.
30—Arrived at North Sydney, N.S.

Sept. 1—At North Sydney.
2—Went to Sydney for coal.
3—Went to Louisburg and coaled ship.
4—Went back to North Sydney.
5—Sunday.
6—Labour day.
7 and 8—Taking supplies aboard at North Sydney.
9—Cleared for Meat Cove, N.S. and repaired Magdalen Island cable.
10—At Aspy Bay, N.S.
11—Sailed for Bryon Island repair.
12—Sunday, at Grosse Isle, M.I.
13 to 16—Gales of wind; ship at Amherst Island for shelter.
17—On cable ground.
18—Gale of wind. Ran to Grindstone for shelter.
19—Sunday.

Operations of SS. Tyrian, 1920-21—Concluded.

Sept.—*Con.*
20 to 25—On cable ground and completed repair.
26—Sunday, went to Grindstone, M.I.
27—Remained at anchor.
28—Went to North Sydney, N.S.
29—Took in water.
30—Thick fog.

Oct. 1—Sailed for Halifax, N.S.
2—Arrived at Halifax.
8—Went out to attend fishing schooner race.
11—The same.
30—Attended the International fishing schooner race.

Nov. 1—Went over the same ground.
19 and 25—Repaired Saraguay Club cable N.W. arm.

Dec. 14—Went on the Marine Railway.

1921
Jan. 5—Took cable from the *Ariano.*

COLLECTION OF REVENUE

By E. T. Smith, Collector of Public Works Revenue

During the year ended March 31, 1921, the revenue accrued was $26,675.39 less than the previous year, but there was an increase of $7,491.98 in the amounts collected. The deficit was to a great extent attributable to the leasing of the slides and booms in the Ottawa, St. Maurice and Saguenay districts, from which during the preceding year there had accrued $67,002.51. From the graving docks, the revenue was $15,229.44 less than in 1919-20, all of which was in the returns from the Lorne dock at Lévis. There was a slight increase of $360.33 in the revenue from ferries, but the revenue accrued from rents and sales was $54,849.47 more than the preceding year, which compensated to a considerable extent for the deficit from other sources. Turning to the collections there is a deficit in slide and boom dues of $42,260 which is accounted for above, and a falling-off of $15,229.44 from the graving docks. There was an increase of $377.67 in fees for ferry licenses, an increase of $60,048.23 from rents and sales, and a special account being a refund collected through this office of $4,555.52, showing a net increase of $7,491.98 as above stated.

The special account of $4,555.52 was paid by the Laurentide Company, being excess of cost of raising piers at Grand Mere over amount stipulated in Order in Council authorizing same. This amount was determined by a scrutiny of the cost accounts made by the district engineer and myself.

While the department has been divested of the maintenance and operation of the slides and booms in the Ottawa District, the St. Maurice District and Saguenay District, with regard to the first named, under the terms of the lease the lessees are to pay over to the Government at its termination any surplus that remains after the cost of operation and maintenance have been defrayed from the tolls collected, which are regulated as to amount by His Excellency the Governor General in Council.

In the Saguenay District, the Chicoutimi Pulp Company has operated the work for the past two years. As it was found that the actual cost of operation would very greatly exceed any possible revenue, this company was allowed to handle the property, subject to the condition that they keep it in suitable shape for handling the traffic, allowances to be made for wear and tear.

In the Ottawa District, the lease provides that the company shall only levy such tolls from year to year as shall pay for the cost of maintenance, repairs and operation. Consequently there will be no surplus of any kind due to the Government at the expiration of the lease as in the case of the St. Maurice River works. The lease for the Gatineau works provides that the lessees shall pay 90 per cent of any surplus of revenue over cost of maintenance and operation.

With regard to the large increase in the amounts derived from rents and sales, this was largely due to the closing of two transactions, namely, the sale of a lot in New Westminster, on which we received the final payment of purchase money and interest, $32,000, and another property, in Regina, from which we received $41,609.08 including interest. As to the former item, the question having been raised by the registrar of titles, New Westminster, as to our rights, and whose opposition to registering our transfer of the property was supported by the legal authorities of the British Columbia Government, a long and searching inquiry extending over the

greater part of a year was required to establish our position. We were fortunately able to obtain the evidence of some very old inhabitants of New Westminster, which on being presented to the Government at Victoria, B.C., were acknowledged as proving our title beyond a doubt. The labour and time expended and the small outlay incurred in bringing about this result effected a matter of about $65,000 which would have enured for the benefit of the British Columbia Government had we failed in our efforts. This is one of the many instances of the work which is frequently done in this office where results often show so little paper evidence, but nevertheless they involve patience and continuous investigation. In the other matter the business was not in the slightest degree complicated.

There still remains on the books considerable amounts for slide and boom dues, the greater part of which accrued before July 1, 1889, when the collection of this revenue was transferred to this department, all of which with the exception of a few small items have been reported to the Privy Council and authority asked to have the same written off, but up to the present no decided action has been taken thereon. I would respectfully submit details relative to the several services under their respective heads:—

OTTAWA DISTRICT

Dues of 1889-90	$6,903 05
" 1890-91	28 42
" 1892-93	379 80
" 1986-97	196 71
" 1903-04	637 37
" 1911-12	723 63
" 1912-13	251 15
" 1913-14	25 31
" 1914-15	16 17
Outstanding	$9,161 61

The balance of dues outstanding prior to July 1, 1889, when this department took over the collection was $56,805.65.

Apart from one account of $28.42 which has been recommended to be written off as above stated, all the dues which accrued in the Ottawa District since I took charge in 1889 has been collected.

THE ST. MAURICE DISTRICT

The amount outstanding previous to my taking charge of this district, namely, $14,690.73, remains unchanged. On April 1, 1920, there was evidently a balance of $20,640, being composed of two items in dispute between the lessees of the St. Maurice works and the department. During the last fiscal year, one of these items amounting to $5,526.65 was paid, leaving a balance of $15,113.35, which would have been adjusted but for the lack of certain evidence which the department considers should be supplied in such cases. Apart from this item all the dues accrued in the St. Maurice District from the time I took charge in 1892 have been collected and duly accounted for. As the lease provides that at its termination any surplus of revenue over expenditure for maintenance, etc., shall be payable to the department, with the assistance of the district engineer, I carefully examined their books and accounts with regard to expenditure for the year 1920-21, which I found correct, and I also checked over carefully the statements of tolls charged up and collected which had been properly prepared from the returns of the lumbermen and the charges made in accordance with the tariff authorized by His Excellency the Governor General in Council. I might say here that considerable work and some expense is involved in following up this business so that when the time of settlement arrives everything shall be conducive to a satisfactory settlement. It is gratifying to note that the

number of logs hauled on the river St. Maurice during the season of 1920, was the largest on record, namely, 14,776,769 pieces, on which the tolls amounted to $99,451.67. The cost of maintenance and upkeep was $96,821.46, leaving a small surplus to go forward to the credit of the operation of the works by the company, of $2,630.21.

THE NEWCASTLE DISTRICT

During the last fiscal year the sum of $346.76 was received, being all the dues accrued during the year. I might say that the business on this river is decreasing so rapidly that in all probability it will come to final termination in the space of a very few years. The reason for retaining control of these works, the cost of which is very trifling in comparison, is that the supply of water is governed by the canal authorities, and it would be to say the least very awkward if the control were handed over to the lumbermen as in the other districts.

GRAVING DOCKS

ESQUIMALT

The revenue for the last fiscal year was $26,253.30, being $2,070.53 more than for the preceding year. During the year the dock was occupied for eighty-two days of which it served four Canadian Government vessels for seven days and others for seventy-five days. The dockages were in many cases for very short periods, which accounts for the tonnage being 111,991 tons against 107,941 tons in the previous year. During the last fiscal year, I examined the books and accounts of the dock from the period from 1914 to July, 1920, and found everything in perfect order.

LÉVIS DOCK

Notwithstanding the increase in the tolls provided in a revision of the tariff on April 9, 1919, the amount of dues received was $17,575.33 less than in the previous year, it being $31,609 (see statement herewith). This seems to require explanation. In the revised tariff the charges for the first day of docking was reduced in a very large number of cases, the idea governing the revision of the tariff was that the dues of the dock should be simply a rental for the use of it. Under the old tariff the first day charge covered the cost of docking the vessel, varying from $300 to $400 per day, which the department paid a company to do because it would have been out of the question to have kept a staff of men constantly on the pay-roll who would only be occupied for a few days at a time when the ship was being docked or undocked, and idle for the remainder of the time, which condition of affairs would have been necessary as men skilled in this work could not have been picked up for a few days at a time when required. Consequently, under the new tariff the first day charge was a net rental, and in balancing up at the end of the year, although I do not follow the expenditure of the dock, the expense would have been reduced by the amounts which we paid during the previous year for docking vessels as described. During the season of navigation, two Canadian Government vessels occupied the dock for 59 days and merchant ships for 134 days, 193 days in all. During the winter of 1920-21, the dock was occupied by two vessels. The gross tonnage of vessels which occupied the dock during the season of navigation was 25,411, while for the preceding year it was 23,667.

KINGSTON DOCK

The Collingwood Shipbuilding Company, the lessees, have paid the reduced rental authorized in 1918, namely, $5,000, to May 1, 1920.

SELKIRK REPAIR SLIP

The revenue for the last fiscal year was $3,055.85, being $275.36 more than for the previous year (see statement). The slip was occupied for 61½ days by 33 vessels of 3,594 tons; of this, eight Canadian Government vessels of 1,021 tons occupied the dock for 14 days.

RENTS AND SALES

During the year 1920-21, the revenue accrued from rents and sales was $204,-912.89, or $54,849.47 more than the preceding year. The collections were $203,403.67 or $60,048.23 more than in 1919-20. The accounts stand thus:—

Balance from previous years		$ 18,860 15
Accrued to March 31, 1921		204,912 89
		$223,773 04
Collected	$203,403 67	
Written off	5,656 47	
Balance March 31, 1921	14,712 90	
		223,773 04

Of the amounts apparently uncollected, namely, $14,712.90, there is one item alone of $10,600.62 composed of a charge for Dunville Bridge, Ont., and another for the Dundas and Waterloo road, which business came to this department from the Inland Revenue Department in 1909. These matters originated a great many years ago and I am not aware that we were ever furnished with the details, but I take it from the condition of the accounts that they are of very doubtful value. Of the remainder, $4,112.28, a considerable portion has been collected since the close of the financial year.

The amounts written off, totalling $5,656.47, are nearly altogether composed of commissions for collections allowed to agents, and the cost of upkeep of property expropriated in Toronto, and elsewhere.

In all fairness it may be claimed that in the administration of these properties there are serious obstacles to obtaining as favourable results, rentals, etc., as compared with similar properties in the hands of private individuals. The latter can make terms, periods of leases, etc., as is seen fit, but we can not give any assurance in most cases of any more than a thirty-day term as we do not know when some of these properties may be required by the Government. Hence we cannot expect to obtain as good rentals as parties who can give a lease for one or more years, and this condition also makes it difficult for our agents to retain the tenants we may have. In consequence of the great cost of repairs, higher taxes, etc., the rentals have been raised considerably, principally in the large blocks in Toronto and Ottawa, so far without the tenants making any serious complaint. Our agents have done their work well and I do not anticipate any loss of rental except from unavoidable misfortune to some of our tenants.

The following is a summary of rents collected from public properties during the year ended March 31, 1921:—

Hydraulic and other rents	$ 3,480 00
Ottawa, Sussex street	2,619 57
" Egan block	400 08
" Wellington street North	20,487 93
Toronto post-office site	10,288 50
Province of Manitoba	441 00
Victoria, Esquimalt, etc., B.C.	2,291 50
Public building sites	20,861 19
Sundry rents	64,335 92
Plant rentals	3,363 00
Sales and interest	74,834 98
	$203,403 67

FERRIES

The balance outstanding on March 31, 1920, was $1,895.29. There was accrued during the year $2,039 net, making a total of $3,934.29, and being $360.33 more than the previous year. The amount collected was $2,009.67, being $377.67 greater than in 1920-21, while the balance at the end of the financial year was $1,924.62. Of the latter amount, $51 has since been paid and $25 should not have been charged up. The remainder consists of old balances which accrued years ago, before these accounts were transferred to this department. Annexed hereto are statements of the details of revenue from the ferries.

Also statements of the details of revenue from the Esquimalt dock, Lorne dock at Lévis, and the repair slip at Selkirk, Man., and a comparative table of the revenue accrued and amounts collected on account of same during the financial year.

COMPARATIVE Table of Public Works Revenue accrued during the year ended March 31, 1921, compared with that of the fiscal year ended March 31, 1920, and of amounts collected on account of same.

	Year ended March 31, 1921	Year ended March 31, 1920	Increase, 1921	Decrease, 1921
	$ cts.	$ cts.	$ cts.	$ cts
Slides and booms—				
Ottawa District	.....	11,836 82	.....	11,836 82
St. Maurice District	.....	55,165 69	.....	55,165 69
Newcastle District	346 76	.....	346 76	.....
Net decrease, $66,655.75	346 76	67,002 51	346 76	67,002 51
Graving docks—				
Esquimalt, B.C.	26,253 30	24,182 77	2,070 53	.....
Kingston, Ont.	5,000 00	5,000 00	.....	.....
Levis, P.Q	31,609 00	49,184 33	.....	17,575 33
Selkirk repair slip, Man.	3,055 85	2,780 49	275 36	.....
Net decrease, $15,229.44	65,918 15	81,147 59	2,345 89	17,575 33
Ferries, increase, $360.33	2,039 00	1,678 67	360 33	.....
Rents and sales—				
Hydraulic rents	3,461 00	3,560 00	.....	99 00
Minor public works	26 00	26 00	.....	.....
Other public properties	201,425 89	146,477 42	54,948 47	.....
Net increase, $54,849.47	204,912 89	150,063 42	54,948 47	99 00
Accrued—				
Slides and booms	346 76	67,002 51	.....	66,655 75
Graving docks	65,918 15	81,147 59	.....	15,229 44
Ferries	2,039 00	1,678 67	360 33	.....
Rents and sales	204,912 89	150,063 42	54,849 47	.....
Net decrease, $26,675.39	273,216 80	299,892 19	55,209 80	81,885 19
Collected—				
Slide and boom dues	5,873 41	48,133 41	.....	42,260 00
Graving Docks	65,918 15	81,147 59	.....	15,229 44
Ferries	2,009 67	1,632 00	377 67	.....
Rents and sales	203,403 67	143,355 44	60,048 23	.....
Special Account (refund)	4,555 52	.....	4,555 52	.....
Net increase, $7,491.98	281,760 42	274,268 44	64,981 42	57,489 44

THE DRY DOCK AT ESQUIMALT, B.C.

STATEMENT of Dues and other charges collected during the year ending March 31, 1921

Name of Vessel Docked.	Tonnage.	Period of Dockage. From	Period of Dockage. To	Dockage Charges.	Other Charges.	Total.
		1920	1920	$ cts.	$ cts.	$ cts.
D.G.S. Launch "Fispa" and "Lilloet" and 2 scows	.....	April 7	April 14	1,500 00	32 40	1,532 40
SS. "Canora"	2,382	" 28	May 8	1,587 50	57 60	1,645 10
SS. "Amur"	907	June 1	June 8	800 00	9 00	809 00
SS. "Canadian Prospector"	5,492	" 14	" 14	200 00	1 80	201 80
SS. "Princess Charlotte"	3 844	" 22	" 23	200 00	.....	200 00
SS. "Princess Charlotte"	3,844	" 29	" 30	200 00	.....	200 00
SS. "Canadian Importer"	5,465	July 10	July 11	200 00	4 80	204 80
SS. "Canadian Inventor"	5,465	" 14	" 15	200 00	2 40	202 40
SS. "Canadian Exporter"	5,498	" 27	" 29	749 80	7 80	757 60
SS. "Princess Charlotte"	3,844	Aug. 4	Aug. 5	200 00	25 20	225 20
SS. "Mount Etna"	4,277	" 7	" 8	200 00	.....	200 00
SS. "Mattawa"	4,874	" 8	" 10	1,174 80	18 60	1,193 40
SS. "Pacific"	3,731	" 25	Sept. 6	5,100 00	294 60	5,394 60
SS. "El Lobo"	4,800	Sept. 7	" 11	1,640 00	45 60	1,685 60
SS. "Princess Charlotte"	3,844	Oct. 2	Oct. 2	200 00	.....	200 00
SS. "Margaret Caughlan"	5,825	" 9	" 11	782 50	15 00	797 50
SS. "Canadian Prospector"	5,492	Nov. 11	Nov. 15	1,847 60	1 20	1,848 80
SS. "Canadian Winner"	5,492	" 22	" 23	749 20	3 60	752 80
SS. "Princess Charlotte"	3,844	" 30	" 30	200 00	.....	200 00
SS. "Talarite"	2,631	Dec. 3	Dec. 7	726 20	7 20	733 40
SS. "Princess Adelaide"	3,060	" 12	" 13	200 00	5 40	205 40
SS. "Canadian Inventor"	5,465	" 14	" 16	746 50	3 60	750 10
		1921	1921			
SS. "Amur"	907	Jan 11	Jan. 13	290 70	3 00	293 70
SS. "Princess Maguinna"	1,850	" 17	" 17	200 00	.....	200 00
SS. "Canadian Exporter"	5,498	" 19	" 21	749 80	2 40	752 20
SS. "City of Vancouver"	5,497	Feb. 3	Feb. 4	749 70	16 80	766 50
SS. "Prince Rupert"	3,379	" 14	" 24	3,200 00	133 20	3,333 20
SS. "Canadian Traveller"	5,492	Mar. 15	Mar. 16	749 20	16 80	766 00
SS. "Canadian Prospector"	5,492	" 26	" 26	200 00	1 80	210 80
	118,191			25,543 50	709 80	26,253 30

THE DRY DOCK AT LEVIS (LORNE DOCK)

STATEMENT of Dues and other charges collected during the year ending March 31, 1921

Name of Vessel Docked.	Tonnage.	Period of Dockage		Dockage Charges.	Other Charges.	Total.
		From	To			
		1920	1920	$ cts.	$ cts.	$ cts.
SS. "Metzwisse"		Entry fee		200 00		200 00
SS. "Bishiwiller"		"		200 00		200 00
SS. "Plessis"	559	May 4	May 10	500 00		500 00
St. B. "Howard W."	1,516	" 4	" 8	510 00	3 00	513 00
SS. "Boulay"	1,100	" 12	" 20	438 00	4 50	442 50
SS. "Bitche"	1,100	" 12	" 20	438 00	1 50	439 50
SS. "Bischiwiller"	1,100	" 20	" 27	350 00		350 00
SS. "Forbach"	1,100	" 20	" 27	350 00		350 00
SS. "Lady Grey"		Entry fee		200 00		200 00
SS. "Henry County"		"		200 00		200 00
SS. "Franklin County"		"		200 00		200 00
SS. "Alice"		Winter	1920-21	600 00		600 00
SS. "Lady Grey"	733	May 29	July 24	3,580 00	6 00	3,586 00
SS. "Manola"		Winter	1920-21	1,704,00		1,704 00
SS. "Lake Herminia"	2,686	Aug. 10	Aug. 19	1,548 75	4 50	1,553 25
SS. "Thomas Krag"	3,569	" 19	Sept. 1	2,725 00	20 00	2,745 00
SS. "Pontoons 1 and 2"		Entry fee		400 00		400 00
SS. "Montcalm"	1,432	July 27	Aug. 20	1,470 00	6 00	1,476 00
SS. "J. A. McKee"		Entry fee		200 00		200 00
SS. "J. A. McKee"	2,158	Sept. 3	Oct. 15	5,180 50	34 75	5,215 25
Q.H.C. "Dredge No. 2"	519	Oct. 16	" 30	100 00		400 00
SS. "Aranmore"	1,170	" 16	" 30	1,078 00	6 00	1,084 00
SS. "Champlain"		Entry fee		200 00		200 00
SS. "Georgie"		"		200 00		200 00
SS. "John S. Thom"		"		200 00		200 00
SS. "Georgie"	6,669	Oct. 31	Nov. 30	8,342 50	108 00	8,450 50
	25,411			31,414 75	194 25	31,609 00

THE DRY DOCK AT SELKIRK, MAN.

STATEMENT of Dues and other charges collected during the year ending March 31, 1921

Name of Vessel Docked.	Tonnage.	Period of Dockage. From	Period of Dockage. To	Dockage Charges.	Other Charges.	Total.
		1920	1920	$ cts.	$ cts.	$ cts.
Dredge No. 205	215	May 7	May 8	50 00	.....	50 00
Dredge No. 201	442	" 8	" 12	176 80	.....	176 80
Ferry	.....	" 19	" 22	90 00	.....	90 00
"Grand Rapids"	438	" 22	" 22	87 60	.....	87 60
"Roddy S"	56	" 25	" 26	70 00	.....	70 00
"Tempest"	75	" 26	" 26	50 00	.....	50 00
"J. R. Spears"	34	" 27	" 29	70 00	.....	70 00
"Lady of the Lake"	201	" 29	" 31	60 05	.....	60 05
"Luanna"	.....	" 29	" 31	60 00	.....	60 00
"Goldfield"	56	June 1	June 2	60 00	.....	60 00
"Majestic"	127	" 1	" 2	60 00	.....	60 00
"Daisy"	58	" 3	" 4	60 00	.....	60 00
Bge. "Alexander"	.....	" 4	" 7	70 00	.....	70 00
"Wolverine"	278	" 18	" 19	69 50	.....	69 50
Mud Scow for 205	100	" 21	" 22	50 00	.....	50 00
Coal Barge	.....	" 24	" 25	50 00	.....	50 00
"Lady of the Lake"	201	July 5	July 6	50 00	.....	50 00
"Daisy"	58	Aug. 12	Aug. 14	70 00	.....	70 00
"Garry"	120	" 19	" 27	180 00	.....	180 00
"Tempest"	75	" 28	" 28	50 00	.....	50 00
"Roddy S"	56	" 28	" 31	90 00	.....	90 00
"Idell"	54	Sept. 1	Sept. 3	80 00	.....	80 00
"Wolverine"	278	" 8	" 9	69 50	.....	69 50
Mud Scow for 205	100	" 16	" 20	90 00	.....	90 00
"Manamakee"	10	" 25	" 27	50 00	.....	50 00
"Vaughan"	134	" 27	" 30	90 00	.....	90 00
"Garry"	120	Oct. 4	Oct. 4	50 00	.....	50 00
"Roddy S"	56	" 11	" 12	50 00	.....	50 00
"Goldfield"	56	" 14	" 16	70 00	.....	70 00
"Idell"	54	Oct. 14	Oct. 16	70 00	.....	70 00
"Peguis"	39	" 25	" 26	50 00	.....	50 00
"Idell"	54	Nov. 8	Nov. 10	70 00	.....	70 00
"Heela"	19	" 12	" 13	50 00	119 30	169 30
"Wolverine"	278	Wintering	.....	573 10	.....	573 10
	3,594			2,936 55	119 30	3,055 85

ANNUAL STATEMENT OF REVENUE ACCOUNTS OF FERRIES, FOR THE YEAR ENDING MARCH 31, 1921

Ferries.	Balance, March 31, 1920.	Accrued during the period.	Rent return.	Deposited to credit of Receiver General.	Balance.
	$ cts.	$ cts.		$ cts.	$ cts.
Hull	1,736 79	.....	.....	.....	1,736 79
St. Clair Station and Lot Kent	45 83	.....	.....	.....	45 83
St. Leonard and Van Buren	30 00	.....	.....	.....	30 00
Edmunston and Maine	20 00	.....	.....	.....	20 00
Pembroke and Allumette (old)	1 00	.....	.....	.....	1 00
Buckingham and Cumberland	15 00	.....	.....	.....	15 00
Rockliffe and Gatineau Point	.....	1,530 00	April, 1920	382 50	
			July, 1920	382 50	
			Nov. 1920	382 50	
			Mar., 1921	382 5	
Walpole Island and Algonac, Mich	.....	1 00	April, 1920	1 00	
Fort Erie and Buffalo	16 67	50 00	" 1920	16 67	50 00
Sault Ste. Marie	.....	100 00	" 1920	100 00	
Calumet and L'Orignal	.....	25 00	" 1920	25 00	
Courtright and St. Clair	.....	10 00	" 1920	10 00	
Rainy R. and Baudette and Spooner	.....	25 00	" 1920	25 00	
Brockville and Morristown	.....	1 00	" 1920	1 00	
Fitzroy and Onslow	.....	5 00	" 1920	5 00	
Sand Point and Norway Bay	.....	5 00	" 1920	5 00	
Buffalo and Point Abinot	.....	50 00	" 1920	50 00	
Buckingham and Cumberland	.....	5 00	" 1920	5 00	
Walkerville and Detroit	.....	1 00	" 1920	1 00	
Fassett and St. Thomas d'Alfred	.....	10 00	May, 1920	10 00	
Pembroke and Allumette	.....	130 00	June, 1920	130 00	
Campbellton and Cross Point	.....	10 00	Aug., 1920	10 00	
Walkerville and Detroit	.....	1 00	" 1920	1 00	
Fitzroy and Onslow	.....	5 00	Oct., 1920	5 00	
Sombra and Marine City	.....	9 00	" 1920	9 00	
Niagara and Youngstown	30 00	30 00	" 1920	60 00	
Courtright and St. Clair	.....	10 00	Feb., 1921	10 00	
Prescott and Ogdensburg	.....	1 00	.....	.....	1 00
Fort Francis and International Falls	.....	25 00	.....	.....	25 00
	1,895 29	2,039 00	.....	2,009 67	1,924 62

REPORT OF THE CHIEF ACCOUNTANT

By A. G. KINGSTON, CHIEF ACCOUNTANT

PART I

EXPENDITURES from Appropriations granted for Public Works

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921

Name of Building	Construction and Improvements	Repairs and Furniture	Rents.	Salaries and Supplies for Caretakers.	Heating.	Lighting.	Water.	Power	Total
PUBLIC BUILDINGS—*Continued*	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Nova Scotia									
Amherst drill hall, grading, etc.	67 24								67 24
" post office, etc.		930 47		763 50	595 06	536 23	37 22		2,862 48
Annapolis, post office, etc.	19,999 32	966 88		935 92	463 00	74 97			22,440 09
" temporary		385 19	660 00	16 52	88 75	63 45	14 25		1,228 16
Antigonish, post office, etc.		163 61	61 60	822 06	1,327 73	289 95			2,664 95
Arichat, post office, etc.		1,034 02		259 08	337 50	34 35			1,664 95
Baddeck, post office		278 15		654 11	380 75	193 41			1,506 42
Bridgewater, post office, etc.		354 39		744 98	478 25	697 29	66 94		2,341 85
Canso, post office		299 75		795 33	591 75	379 94			2,066 77
Dartmouth, post office, (old)		20 37		600 98	5 00	83 36	21 00		730 71
" (new)		366 45		681 15	557 05	524 00	40 00		2,168 65
Digby Fisheries Inspector's office (Warne B.)			103 33						103 33
" post office		450 50		816 94	505 03	467 69	72 00		2,312 16
Glace Bay, post office		375 19		885 86	646 88	386 23	33 00		2,327 16
Guysborough, post office		127 03		291 72	534 25	263 80			1,216 80
Halifax, archives office		7 00	380 00						387 00
" Bissett's Storage, 153 Lower Water St. (D.P.W. P.O.)		2 10	270 00						272 10
" custom house, etc.		1,584 22	107 21	7,574 85	3,012 47	573 14	642 35	121 84	13,616 08
" Dom. Analyst's office, 52 Bedford Row		403 75	1,350 00						1,753 75
" examining warehouse, etc.		9 85		751 95		180 88			942 68
" Heslin B., Fisheries Department		1,570 96	1,826 40						3,397 36
" immigration building		281 05							281 05
" immigration detention hospital					184 32	5 51	136 31		326 14
" immigration office, pier No. 2		29 05							29 05
" income tax office, 184 Hollis st.		24 50							24 50
" " (Eastern Trust B.)		2 75	2,233 31						2,236 09

" Militia and Defence (Dennis B.)			1,093 17						1,093 17
" Naval service, 121 Hollis st		82 25							82 25
" post office, etc	4,870 00	5,907 11		8,455 32	3,047 75	2,978 38	653 11	489 08	26,400 75
" Public Works (storage)			9 30						9 30
" quarantine station		1,968 75			962 30				2,931 05
" "Rockhead" public building		208 50		40 00	977 03	—			1,225 53
" Simpson B. (Labour Dept.)		94 40	85 00			28 00			207 40
" Steamships Inspector's office			550 00						550 00
" weights and measures office, 229 Hollis st		12 49	840 00						852 49
Inverness, post office		315 79		726 68	626 50	385 50	45 00		2,099 47
Kentville experimental farm	8,656 66				1,188 25	183 26			10,028 17
" post office, etc		82 89		726 98	15 00	302 34	50 00		1,177 21
Liverpool, post office, etc		202 00		1,010 58	493 50	251 07	18 00		1,975 15
Lunenburg, post office		419 84		808 07	540 00	584 26	59 00		2,411 17
Nappan experimental farm	6,835 93				186 25	248 63			7,270 81
New Glasgow, post office, etc		423 59		750 06	591 57	658 53	100 00		2,523 75
North Sydney, immigration building		76 95			211 20				288 15
" Master and Mates office			30 00						30 00
" post office		164 27	4 00	808 55	11 60	517 03	32 00		1,537 45
" Public Works office (engineer)			934 00			9 04			943 04
Parrsboro, post office		224 00	25 00	838 83	487 50	379 53	52 00		2,006 86
Pictou, custom house, etc		628 14		300 00	557 45	28 47	14 65		1,528 71
" post office		635 60		338 75	48 75	166 89	27 11		1,217 10
Shelburne, post office, etc		161 71		794 73	473 25	273 16			1,702 85
Springhill, post office, etc		121 90		657 51	432 88	300 01	60 00		1,572 30
Stellarton, post office			300 00						300 00
Sydney "Post" building (Marine and Fisheries, etc.)			609 00						609 00
" post office, etc	1,463 87	34 84		1,275 74	74 00	651 50	89 25		3,589 20
" quarantine station		248 62			205 50				454 12
Sydney Mines, post office, etc	47 50	321 53		625 52	387 51	557 05	52 50		1,991 61
Trenton, post office			600 00		93 60	33 25			726 85
Truro, post office		519 89		719 96	696 00	566 07	32 00		2,533 92
" temporary		203 00	200 00						403 00
Westville post office		43 65		731 98	409 50	253 68	25 00		1,466 81
Weymouth, post office			100 00						100 00
Windsor, post office, etc		565 58		898 96	640 75	369 65	75 00		2,549 94
Wolfville, post office		120 92		807 82	1,003 75	183 75	38 00		2,154 24
Yarmouth, post office, etc	27,120 02	984 04		782 48	1,897 41	563 84	51 00		31,401 79
Yarmouth post office, etc. (temporary)		262 21	150 00		25 00	386 47			823 68
Nova Scotia Generally, minor offices throughout the Province		366 65				137 34	27 16		531 15
Totals, Nova Scotia	69,060 54	25,068 34	12,521 35	38,696 47	25,991 59	15,750 90	2,566 85	610 92	190 266 96

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921—*Continued*

Name of Building	Construction and Improvements	Repairs and Furniture	Rents	Salaries and Supplies for Caretakers	Heating	Lighting	Water	Power	Total
PUBLIC BUILDINGS—*Continued.*	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Prince Edward Island									
Charlottetown, custom house, etc	.....	960 01	68 00	1,234 85	349 78	24 83	34 00	.....	2,671 47
" experimental farm	5,896 47	.....	.....	.....	961 08	192 97	.....	25 20	6,985 72
" immigration office	.....	68 01	269 37	.....	.....	.....	.....	.....	337 38
" post office, etc	1,740 71	322 90	.....	3,309 48	2,031 48	1,904 31	225 00	.....	9,533 88
" Public Works office (clerk of works office)	.....	55 81	216 08	50 00	.....	8 85	.....	.....	330 74
" Public Works office (superintendant of dredges)	.....	11 50	150 00	55 00	.....	12 62	.....	.....	229 12
Georgetown, post office, etc	.....	374 18	.....	176 89	565 49	117 30	.....	.....	1,233 77
Keppock, quarantine station	.....	.....	.....	.....	259 20	.....	.....	.....	259 20
Montague, post office, etc	.....	61 44	.....	489 49	511 50	77 45	.....	.....	1,139 88
Souris, post office, etc	.....	331 94	.....	543 79	331 47	209 05	.....	.....	1,416 25
Summerside, post office, etc	.....	315 65	.....	960 27	755 24	702 65	70 99	.....	2,804 80
Tignish, post office	.....	1,222 15	2 00	781 93	493 22	444 98	.....	.....	2,944 28
Prince Edward Island generally, minor offices throughout the province	.....	0 35	.....	.....	.....	.....	.....	.....	0 35
Totals, Prince Edward Island	7,547 18	3,723 94	705 45	7,601 70	6,258 37	3,695 01	329 99	25 20	29,886 84
New Brunswick									
Bathurst, post office, etc	.....	343 43	.....	775 03	754 00	245 65	.....	.....	2,118 11
Campbellton, post office, etc	.....	682 63	.....	798 00	1,358 27	385 59	52 00	.....	3,276 49
Campobello, fisheries office	.....	.....	120 00	.....	.....	.....	.....	.....	120 00
Chatham, post office, etc	.....	27 00	45 00	728 48	862 54	407 85	50 00	.....	2,120 87
" quarantine station	.....	.....	.....	.....	243 40	.....	.....	.....	243 40
Dalhousie, post office, etc	.....	423 62	.....	667 60	396 96	114 76	19 50	.....	1,532 41
Edmundston, immigration office	.....	.....	60 00	.....	.....	.....	.....	.....	60 00
" post office	.....	.....	400 00	.....	.....	.....	.....	.....	400 00
Fairville, post office	.....	76 37	29 98	751 80	7 50	109 53	17 10	.....	992 28
Fredericton, custom house (old post office)	.....	319 91	.....	774,96	1,909 54	234 58	15 78	.....	2,384 77
" experimental farm	4,269 87	.....	.....	.....	782 74	.....	.....	.....	5,052 61
" post office, etc	.....	467 50	.....	1,008 30	2,121 56	1,084 52	48 08	.....	4,732 96
Grand Falls, post office	.....	140 55	.....	799 45	573 96	148 23	33 00	.....	1,695 19
Hampton, post office (Ossekeag)	.....	103 95	25 00	730 81	360 13	77 10	.....	.....	1,296 99
Hartland, post office, etc	.....	25 57	.....	684 75	482 14	197 16	30 00	.....	1,419 62
Hillsborough, post office, etc	.....	148 28	.....	729 98	132 00	112 70	.....	.....	1,122 96
Marysville, post office	.....	725 18	.....	166 85	414 45	67 74	12 00	.....	1,386 22

Milltown, post office, etc		181 86		782 77	562 43	228 02	32 40		1,787 48
Moncton, examining warehouse		14 45	1,600 00		56 50	2 85			1,673 80
" post office	1,790 00	1,475 52		1,095 80	550 00	570 98	134 00		5,616 30
" " " additional post office			720 00		135 00	334 71			1,189 71
" " " Labour Department			480 00						480 00
Newcastle, post office, etc		239 71		808 48	1,222 62	696 40	35 00		3,002 21
Richibucto, post office		55 07		750 18	578 90	249 24			1,633 39
St. John, custom house, etc		3,395 67	208 90	6,699 46	1,524 00	796 05	2,511 84	200 44	15,336 36
" C.P.R. station mail room			150 00						150 00
" immigration building	7,054 46	2,418 85	2,105 32		1,249 85	1,088 49	875 75		14,792 72
" post office, etc., (old)		561 58		3,843 85	1,035 76	626 79	460 27		6,528 25
" " (new)	3,188 56	3,281 73	7 48	10,289 34	3,489 72	1,907 88	789 87	870 00	23,824 58
" quarantine station	27,732 67	230 17		520 00	7,394 08		870 85		36,747 77
" savings bank		318 28		457 35	955 20	266 44	113 52		2,110 79
St. John West, post office		484 48		416 36	204 39	220 37	9 98		1,335 58
St. Stephen, immigration office			300 00		108 00		7 60		415 60
" post office, etc		152 71		789 63	532 98	229 27	77 42		1,782 01
Sussex, post office, etc		172 48		725 23	392 44	185 02	58 00		1,533 17
Tracadie Lazaretto		983 40		2,110 00	615 89	20 51			3,729 80
Woodstock, post office, etc		308 17		703 74	612 37	379 43	137 56		2,141 27
New Brunswick generally—minor offices throughout the province		2,936 53				23 30			2,959 83
Totals, New Brunswick	44,035 56	20,694 65	6,251 68	38,608 20	30,632 32	11,011 16	6,421 52	1,070 44	158,725 53
Quebec									
Acton Vale, post office		14 75		853 76	501 81	125 43	21 00		1,516 75
Arthabaska, post office		46 31		825 11	627 24	148 71	100 00		1,747 37
Asbestos, post office			200 00						200 00
Aylmer, post office		50 93		147 16	477 50	242 25	106 75		1,024 59
Beauharnois, post office		29 70	305 00		240 17	54 57			629 44
Berthierville, post office		10 15		111 25	315 52	77 79			514 71
Black Lake, post office			150 00						150 00
Brownsburg, post office			99 96						99 96
Buckingham, post office		107 05		235 95	609 62	141 00			1,093 62
Cap Rouge, experimental farm	7,717 61				3,260 61				10,978 22
Chicoutimi, post office		149 31	54 25	912 64	1,006 46	600 40	300 00		3,023 06
Coaticook, post office, etc		165 71		844 15	770 81	258 07	71 25		2,109 99
Compton, post office		7 75	110 00						117 75
Cookshire, post office		33 42		781 75	464 01	174 36	53 00		1,506 54
D'Israëli, post office			122 50						122 50
Drummondville, post office, etc		222 37		1,035 96	328 57	89 81			1,676 71
Dundee, custom house		24 21		15 57	183 40	32 19			255 37
East Angus, post office		349 18		797 47	700 90	308 98	150 00		2,306 53
Farnham, experimental farm	2,816 05					44 30			2,860 35
" post office		233 20		744 38	614 05	109 72	53 00		1,754 35
Fraserville, post office, etc		58 90		800 81	138 25	135 00	200 00		1,332 96
" Riv. du Loup Station, post office			275 00						275 00
Granby, post office	17,911 55	115 99		858 05	618 25	372 32	150 00		20,026 16

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921—*Continued*

Name of Building	Construction and Improvements	Repairs and Furniture	Rents	Salaries and Supplies for Caretakers	Heating	Lighting	Water	Power	Total
PUBLIC BUILDINGS—*Continued*	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Quebec—Continued									
Grosse Isle, quarantine statioa		10,704 29			8,959 01				19,663 30
Hemmingford (Huntingdoa), Immigration office		1 00	60 00						61 00
Hemmingford (Huntingdon), Eatomological Laboratory		1 32							1 32
Hull, post office		1,109 17		205 89	502 45	186 84	386 37		2,690 72
" research laboratory	4,159 79	370 83			745 75	14 40			5,290 77
Huntingdon, post office			675 00						675 00
Iberville, post office				504 75	161 65	34 44	19 00		719 84
Joliette, post office, etc		935 88		934 61	754 42	335 15	110 00		3,070 06
Jonquières, post office		273 11		775 56	509 00	148 99	26 88		1,733 54
Knowlton, post office, etc		257 18		214 32	1,095 50	160 49	21 00		1,748 49
Lachine, post office		357 15		166 81	400 20	169 62	53 30		1,147 08
Lachute, post office		630 75		837 98	295 44	447 96	37 50		2,249 63
Lacolle, immigration office			144 00		85 51	12 00			241 51
Laprairie, post office		26 42		186 40	422 57	112 16	67 50		815 05
L'Assomption, post office		71 65		321 04	360 08	57 25	65 00		875 02
Lennoxville, experimental farm	10,092 09				773 65	95 28			10,961 02
Levis, post office, etc		334 96		1,352 09	844 74	208 26	325 00		3,065 05
Longueuil, post office		35 82		740 90	445 95	58 69	62 70		1,344 06
Louiseville, post office		116 95		718 77	519 00	241 50	12 50		1,608 72
Magog, post office, etc		116 24		804 66	713 56	80 72	98 20		1,813 38
Marieville, post office		6 49		538 65	503 47	56 72	68 00		1,173 33
Matane, post office		91 20		800 52	563 64	60 20	101 00		1,616 56
Megantic, post office		81 70		814 03	81 65	317 93	63 00		1,358 31
Mont Joli, post office		18 50							18 50
Montmagny, post office, etc		80 65		767 02	695 16	252 25	50 00	15 00	1,860 08
" public works storage			50 00						50 00
Montreal, Board of Commerce bldg., 15 St. James street		427 47	510 00						937 47
" Bonaventure station mail room		2 50	252 00						254 50
" Coristine bldg., Trade and Commerce			849 96						849 96
" custom house, etc	3,583 63	143 13	62 72	191 89	3,106 46	385 93	445 23		7,918 99
" " (canal office)		18 58			21 81	27 40	17 46		85 25
" examining warehouse (old)	2,574 61	12 30		123 20	8,673 31	1,547 88	1,440 99	559 07	14,931 36
" " " (new)	5,976 55	257 36	15 68	630 40	9,597 70	3,063 82	4,096 93	2,871 07	26,509 51
" Drummond building, (Railways and Canals office)		13 15							13 15

" forest products laboratory		63 06			1,051 37	778 59	186 90	1,726 46	3,806 38
" immigration building		1,672 82			2,724 20	5 41	1,215 97	155 72	5,774 12
" inland revenue building		1,671 02		657 90	881 46	146 96	145 50		3,502 84
" La Sauvegarde bldg., signal service			433 35						433 35
" Place Viger station, mail room			274 67						274 67
" post office, etc	28,830 93	10,442 97	363 24	3,259 93	6,233 82	10,235 40	3,899 20	4,597 59	67,863 08
" post office annex (old Herald bldg.)		368 63	8,097 42	18 50	953 17	161 03	349 20	351 33	10,299 28
" postal station "A," etc		881 65	33 26	119 00	1,441 80	342 16	378 30	680 23	3,876 40
" " "B"		833 77		813 15	942 27	369 63	582 00		3,540 82
" " "C"		777 75	15 29	195 45	928 59	239 68	883 73		3,040 49
" " "D"		152 14		872 00	879 51	195 16	174 60		2,273 41
" " "E"		461 68		797 55	729 68	190 96	78 82		2,258 69
" " "F"		576 81	8 68	91 65	1,345 84	310 08	192 79		2,525 85
" " "G"	34 13								34 13
" " "H," etc		1,164 21	85 19	273 00	4,240 53	1,117 64	1,761 15	2,531 55	11,173 27
" " "L"		149 30		103 30	890 23	266 91	175 70		1,585 44
" " "M"			600 00	2 20	280 50	39 52	14 50		936 72
" " "N"		10 35	6,814 80	4 40		257 95	232 80		7,320 30
" " "O"		496 00		605 65	540 39	150 73	68 10		1,860 87
" " "R" (St. Denis ward)		753 24	1,100 00	253 60	148 75	54 56	18 61		2,328 76
" " "S"		275 92		5 65	603 93	104 53	116 40		1,106 43
" " Delormier Ave		16 95	916 63	3 50	3 80	77 36	58 20		1,076 44
" " Hochelaga		378 90		307 90	649 05	156 24	139 68		1,631 77
" " Maisonneuve	6,113 37								6,113 37
" " Notre Dame de Grace		46 95	1,025 80			6 32	33 95		1,113 02
" " Outremont		461 17	2,100 00	192 00		164 80	33 15		2,951 12
" " Ste. Cunegonde			1,750 00						1,750 00
" " St. Henri		334 92		15 35	558 95	210 56	87 81		1,207 59
" " Verdun		54 55	1,350 00	76 70		22 25	81 00		1,584 50
" Shaughnessy bldg. (Marine, etc.)		223 77	21,050 58			627 32	875 91		22,777 58
" Westmount inland revenue office			295 00						295 00
" Windsor mail room		139 04	350 00	105 60				92 40	687 04
" generally		5,563 64		157,449 88		8,328 19			171,341 71
Mont Joli, post office			240 00	4 12	149 85	49 50			443 47
Murray Bay, post office		108 73		931 73	630 00	217 52	50 00		1,937 98
Napierville, post office	93 55								93 55
Nicolet, post office, etc		48 30		786 98	323 15	237 12	70 80		1,466 35
Nominingue, immigration building		131 33		150 00	225 00				506 33
Pierreville, post office		30 75		156 65	137 60	59 40	10 00		394 40
Plessisville, post office		273 85		419 35	424 55	259 78	55 90		1,433 43
Quebec, archives office			585 00	396 00		14 57			995 57
" Canada Food Board, 103 St. John st			10 00						10 00
" Citadel (Governor General's quarters)		1,365 04	65 28	694 75	1,654 64	179 10			3,958 81
" custom house, etc		560 09	139 72	5,016 55	1,851 93	917 40		700 00	9,185 69
examining warehouse		189 28		4,173 30	2,502 22	320 85		900 00	8,085 65
" immigration buildings (Louise embankment)	3,143 22				9,936 98	1,105 20	1,231 65	1,365 00	16,782 05
" immigration detention hospital (Savard Park)		30 00							30 00
" immigration detention hospital (Medical Supt's residence)			600 00						600 00

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921—*Continued*

Name of Building	Construction and Improvements	Repairs and Furniture	Rents.	Salaries and Supplies for Caretakers.	Heating.	Lighting.	Water.	Power	Total
PUBLIC BUILDINGS—*Continued*	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Quebec—Continued									
Quebec, marine agency (King's wharf)	8,400 50				1,067 30		750 00		10,217 80
" observatory		9 50				56 67	50 00		116 17
" post office, etc. (main)	2,711 53	254 39	215 07	15,598 07	6,249 38	1,691 99	810 00	1,887 54	29,417 97
" postal station "B"		2 00	4,375 00			179 96			4,556 96
" Candiac post office			75 00						75 00
" Faubourg St. Jean, post office			2,100 00	108 00		75 18			2,283 18
" St. Roch post office		10 25		991 92	651 82	393 87	375 00		2,425 86
" St. Sauveur post office		28 59		719 98	519 46	295 97	155 00		1,719 00
" weights and measures office					272 79	21 39			294 18
" generally		1,164 25		8,425 83		19 20			9,609 28
Richmond, post office, etc	2,876 01	153 05		846 97	628 74	331 41	25 00		4,861 18
Rigaud, post office, etc		168 62		339 60	641 69	203 47	11 00		1,364 38
Rimouski, post office, etc		994 75	59 00	379 32	241 10	159 97	150 00		1,984 14
Roberval, post office, etc		58 65		815 38	925 95	266 62	25 00		2,091 60
Rock Island, post office, etc		779 90		794 02	551 20	230 97	28 52		2,384 61
Ste. Agathe des Monts, post office		126 62		784 32	666 86	217 40	527 00		2,322 20
Ste. Anne de Bellevue, post office			250 00			46 63	35 00		331 63
Ste. Anne de la Pocatiere, experimental farm	8,107 63				800 00				8,907 63
St. Eustache, post office			445 00			24 68			469 68
St. Felix de Valois, post office			87 00						87 00
St. Gabriel de Brandon, post office		94 13		799 35	544 00	203 06	50 00		1,690 54
St. George de Beauce, post office			200 00						200 00
St. Hyacinthe, inland revenue building		139 88		774 70	342 71	38 91	189 00		1,485 20
" post office, etc		685 22		899 66	656 49	164 50	189 00		2,594 87
St. Jean, custom house		153 90		349 92	325 00	55 69	60 00		944 51
" post office		1,190 17		309 85	635 05	191 75			2,326 82
St. Jerome, post office, etc		171 80		757 53	638 07	70 57	70 88		1,708 85
St. Joseph de Beauce, post office		7 02	200 00			28 73	9 00		244 75
St. Lambert, post office		49 83		773 28	510 00	79 25	26 52		1,438 88
St. Regis, customs office					98 10				98 10
Ste. Rose, post office			162 00						162 00
Ste. Therese, post office, etc		371 79		869 72	814 85	241 47			2,297 83
St. Tite, post office			200 00		204 07	44 20			448 27
Sayabec, post office			125 00						125 00
Shawinigan Falls, post office		757 80		773 43	992 00	100 05	57 25		2,680 53
Shawville, post office		22 55		787 08	444 72	380 97			1,635 32
Sherbrooke, post office, etc	2,081 92	501 34	34 65	1,260 74	1,709 13	735 09	44 50		6,367 37
" " inspector's office		206 35	996 00			40 28			1,242 63

" engineer's office (D.P.W.)	.....	.....	1,066 98	.....	.....	.....	.....	.....	1,066 98
" C.N.R. mail room	.....	.....	300 00	.....	.....	.....	.....	.....	300 00
Sorel, post office, etc	.....	499 56		909 20	1,508 35	588 18	260 20	.....	3,765 49
Stanhope, immigration building	.....	.....	.....	.....	144 95	.....	.....	.....	144 95
Stanstead (Plain) post office	.....	.....	221 05	.....	.....	.....	.....	.....	221 05
Terrebonne, post office, etc	.....	55 74	.....	359 69	334 08	88 15	17 00	.....	854 66
Thetford Mines, post office, etc	.....	16 80	.....	204 22	526 75	241 35	45 00	.....	1,034 12
Trois Pistoles, post office	.....	.....	100 00	.....	.....	.....	.....	.....	100 00
Trois Rivieres, post office (new)	.....	973 97	89 12	3,130 05	3,340 00	680 67	.....	.....	8,213 81
Valleyfield, post office, etc	.....	315 01	.....	1,145 52	1,195 34	284 74	90 00	.....	3,030 61
Victoriaville, post office, etc	.....	85 70	.....	342 60	465 41	139 45	200 00	.....	1,233 16
Quebec generally,—minor offices throughout the province	32 00	2,481 37	.....	.....	144 00	248 51	86 57	.....	2,992 45
Totals, Quebec	117,256 67	61,653 76	63,510 85	243,796 74	124,344 97	47,772 11	26,311 32	18,432 96	703,109 38

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921—*Continued*

Name of Building.	Construction and Improvements	Repairs and Furniture	Sundry Maintenance	Rents	Salaries	Heating	Lighting	Water	Power	Total
Ottawa Buildings	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Parliament buildings	1,893,895 91				14,053 47	784 36*	8,945 78	76 96	7,920 73	1,925,677 21
Central heating plant (connection with sundry buildings)	17,499 86									17,499 86
Central heating plant—operation for the heating of sundry buildings as per statement at foot					16,082 29	256,777 50	108 91		569 66	273,538 36
Departmental Buildings—										
East Block	9,497 93				6,560 13	625 66*	4,880 25	3,194 21	849 20	25,607 38
West Block					7,250 10	1,057 96*	3,345 47	12,287 90	1,318 60	25,260 03
Langevin Block				10 00	8,043 70	329 10*	2,368 92	530 72	1,460 40	12,742 84
Connaught building					11,372 47	12,872 53	2,588 20	923 38	4,248 60	32,005 18
Hunter building	13,944 90				16,259 33	29,806 79	4,595 52	1,110 16	3,733 35	69,450 05
City Post Office	11,899 12				6,636 08	157 53*	1,235 12	2,036 77	663 40	22,628 02
Grounds, including Major's Hill Park			4,056 53		747 50	4,062 86				8,866 89
Repairs and furniture		177,701 25			408,747 96					586,449 21
Steel fittings	75,082 61									75,082 61
Telephone service			88,500 00							88,500 00
Sites for new departmental buildings										
Wellington street west	1,854 07									1,854 07
Maintenance of acquired properties—										
Sussex street					1,528 75	1,395 29				2,924 04
Wellington street, east					750 00	2,070 13	237 14	534 23		3,591 50
" " west					10,525 62	38,324 92	3,109 53	12,482 59	444 17	64,886 83
Archives building					1,452 34	918 89	205 41	109 67	236 00	2,922 31
Astronomical observatory and Geodetic building	1,682 76	939 13	3,219 24		3,249 60	3,149 53	613 34		93 00	12,946 60
Biological laboratory						994 62	139 75		50 55	1,184 92
Experimental Farm	84,642 27					10,080 00	1,956 05	4,228 80	2,198 90	103,106 02
Fuel testing plant					1,132 98	5,177 99	429 81	1,696 94	2,688 95	11,126 67
" " partial reconstruction of ore dressing plant	5,999 70									5,999 70
Mines building (Sussex street)					4,115 58	2,834 53	2,385 83	317 42	906 60	10,559 96
National Art Gallery	11,866 00		5,175 27		2,941 00					19,982 27
Printing Bureau, elevators, additions, etc	121,932 39					24,266 43	6,737 45	3,574 25	3,189 62	159,700 14
Public Works, workshop					3,580 00	6,717 74	462 61	607 55	81 00	11,448 90
Rideau Hall		30,900 59				140 46		2,544 66		33,585 71

Grounds, greenhouses, etc.			13,743 55							13,743 55
Snow			4,957 12							4,957 12
Fuel and light			17,000 00							17,000 00
Watchman					695 00					695 00
Royal Canadian Mounted Police building	79,164 86									79,164 86
Royal Canadian Mounted Police temporary quarters	11,699 52									11,699 52
Royal Mint	10,050 90				1,585 85	11,983 13	182 52	3,708 07		33,510 47
Supreme Court					4,140 00	*26 08	418 26	170 03		4,754 37
Victoria Island shipyard					1,370 00	1,034 23				2,404 23
Victoria Memorial Museum	34,248 99				11,133 84	24,959 44	3,009 48	1,158 64	1,764 40	76,274 79
Government's share of cost of paving Elgin street fronting Cartier sq. and Victoria Memorial Museum	2,602 43									2,602 43
Government's share of cost of paving St. Patrick's st. to Mackenzie avenue	492 00									492 00
Local improvements on Carling avenue opposite experimental farm	3,404 90									3,404 90
Departments Generally—Care and cleaning of departmental buildings including amount of $100 to E. Snowdon for firing noon gun			372,922 25							372,922 25
Sundry rented buildings				713,462 03	40,245 15	77,611 61	38,969 59	3,748 43	10,311 16	884,347 97
Totals, Ottawa buildings	2,397,461 12	209,540 97	509,573 96	713,472 03	584,198 74	518,159 31	86,924 94	55,041 38	42,728 29	5,117,100 74

*For total cost of heating each of these buildings see statement below.

Re Central Heating Plant and Buildings Served Thereby

The operation of the Central Heating Plant is devoted entirely to the hating of the seven buildings named below and in the present statement the total cost of operation ($273,538.36) is apportioned to each in the ratio of its cubic contents. To this there is added here some minor expenditure incurred for the salary of the engineer controlling the local distribution of steam, also purchase of grate coal, etc.

Name of Building	Heat from Central Heating Plant	Sundry other heating items	Total cost of heating each building
Parliament Building	126,513 88	4,679 67	131,193 55
East Block	44,724 15	4,140 79	48,865 24
West Block	43,737 63	4,694 93	48,432 56
Langevin Block	31,691 77	3,524 60	35,216 37
City Post Office	9,077 37	2,430 86	11,508 23
Supreme Court	8,973 43	1,938 22	10,911 65
Soldiers Civil Re-Establishment Building (Vittoria street)	8,819 83	.....	8,819 83
	273,538 36	21,409 07	294,947 43

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921—*Continued*

Name of Building	Construction and Improvements	Repairs and Furniture	Rents	Salaries and Supplies for Caretakers	Heating	Lighting	Water	Power	Total
PUBLIC BUILDINGS—*Continued.*	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ontario									
Acton, post office, etc.		23 80		815 38	925 00	110 62			1,874 80
Alexandria, post office, etc.		475 45		791 26	633 85	236 13	11 63		2,148 32
Almonte, post office, etc.		119 06		873 34	800 16	352 91	75 00		2,220 47
Amherstburg, post office, etc.		350 75		737 97	369 34	76 82	105 00		1,639 88
Arnprior, post office, etc.		988 68		799 57	752 10	323 78	33 60		2,897 73
Athens, post office, etc.		241 30		67 40	584 56	145 20			1,038 46
Aurora, post office, etc.		433 14		823 94	509 50	33 65	16 00		1,816 23
Aylmer West, post office, etc.		362 73		856 44	649 90	186 91	36 81		2,092 79
Barrie, post office, etc.		133 67		866 39	586 95	156 20	50 00		1,793 21
Belleville, Canada Food Board			210 00						210 00
" income tax office			1,570 08						1,570 08
" post office, etc.	3,000 00	476 13		1,170 98	1,615 49	789 39	91 10		7,143 09
" weight and measures office			450 00						450 00
Blenheim, post office			200 00						200 00
Bowmanville, post office, etc.		145 27		889 70	438 88	121 68	37 98		1,633 51
Bracebridge, post office, etc.		15 57		769 98	814 18	101 73	9 60		1,711 06
Brampton, post office, etc.		134 26		739 68	739 00	116 17	69 48		1,798 59
Brantford, armouries	110 25								110 25
" post office, etc.	331 20	542 67		6,494 73	2,289 72	293 03	79 91	332 65	10,363 91
Bridgeburg, post office, etc.		92 06		855 33	624 45	142 91	25 00		1,739 75
Brighton, post office			130 94						130 94
Brockville, gas and electric inspector's office		177 08	90 00						267 08
" post office, etc.		1,412 76		1,318 53	988 30	566 30	180 63		4,466 52
" railway mail room			24 00						24 00
Burford, post office, etc.				849 58	583 08	111 39			1,544 05
Cardinal, post office		283 30		16 45	279 25	58 99	15 00		652 99
Carleton Place, post office, etc.		234 94		804 77	608 00	173 05	35 57		1,856 33
Cayuga, post office		22 05		309 65	97 80	109 90			539 40
Chapleau, post office			250 00						250 00
Chatham, post office, etc.		247 12		772 25	481 37	189 01	50 33		1,740 08
Chesley, post office, etc.		74 90		782 44	647 07	159 80	25 00		1,689 21
Clinton, post office, etc.		53 22		786 87	758 50	137 16	13 84		1,749 59
Cobalt, post office			2,000 00			91 76			2,091 76
Cobourg, post office, etc.		232 15		768 70	541 55	305 07	67 08		1,914 55
Collingwood, post office, etc.		643 44		1,357 92	1,530 00	179 95	99 92		3,811 23
Cornwall, post office, etc.		82 06		841 29	1,396 40	226 35	75 00		2,621 10
Deseronto, post office, etc.	1,271 88	18 40		875 16	675 00	307 72	39 00		3,187 16
Dresdon, post office		219 00		769 98	7 50	169 39	16 11		1,181 98

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921—*Continued*

Name of Building	Construction and Improvements	Repairs and Furniture	Rents.	Salaries and Supplies for Caretakers.	Heating.	Lighting.	Water.	Power	Total
PUBLIC BUILDINGS—*Continued*	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ontario—Continued									
Dundas, post office	29 59	594 75	.....	861 00	1,339 41	130 06	28 86	.....	2,983 67
Eganville, post office, etc	.....	39 05	.....	794 26	491 92	204 96	34 00	.....	1,564 19
Elmira, post office, etc	.....	96 70	.....	834 13	413 08	106 91	12 81	.....	1,463 63
Elora, post office	.....	19 27	.....	816 08	501 50	74 41	.....	8 50	1,419 76
Essex, post office	.....	.....	.....	831 78	249 70	97 83	45 00	.....	1,224 31
Fergus, post office	.....	46 58	.....	817 65	580 00	93 57	25 00	.....	1,562 80
Fort William, examining warehouse, etc	.....	835 42	86 00	3,773 10	1,645 50	281 11	162 00	198 00	6,981 13
" income tax office	.....	.....	1,100 00	.....	.....	.....	.....	.....	1,100 00
" post office	.....	1,041 53	.....	921 90	1,367 00	327 42	90 00	.....	3,747 85
Galt, post office, etc	163 45	296 50	.....	876 05	726 97	141 98	48 98	.....	2,253 93
Gananoque, custom house	.....	633 57	.....	.....	417 50	55 92	18 12	.....	1,125 11
" post office, etc	.....	465 16	.....	1,073 28	710 25	154 85	34 04	.....	2,437 58
Glencoe, post office, etc	.....	424 87	.....	814 69	595 69	152 22	15 00	.....	2,002 47
Goderich, post office, etc	.....	156 70	.....	769 40	594 52	100 36	60 00	.....	1,680 98
Grimsby, post office	.....	318 49	.....	798 88	337 75	74 26	20 00	.....	1,579 38
Guelph, post office, etc	.....	211 51	.....	952 78	1,226 66	201 86	53 80	.....	2,646 61
Hamilton, gas and electric inspector's office	.....	36 00	720 00	.....	32 39	15 90	.....	.....	804 29
" income tax office	.....	.....	1,750 00	.....	.....	.....	.....	.....	1,750 00
" post office, etc	1,826 67	428 07	141 82	11,838 88	3,929 13	459 52	1,513 55	56 25	20,193 89
" postal station "B"	25,074 96	.....	.....	.....	.....	.....	.....	.....	25,074 96
" " "B" (temporary) 654 Barton st.	.....	69 25	1,375 00	80 00	.....	34 41	17 25	.....	1,575 91
" railway mail room	.....	.....	100 00	.....	.....	.....	.....	.....	100 00
" weights and measures office	.....	.....	920 00	.....	56 25	5 70	.....	.....	981 95
Hanover, post office, etc	.....	317 47	.....	828 06	907 51	123 65	38 00	.....	2,214 69
Harriston, post office, etc	.....	65 98	.....	597 95	858 89	158 44	19 00	.....	1,700 26
Harrow, tobacco curing station	705 42	.....	.....	.....	.....	.....	.....	.....	705 42
Hawkesbury, post office, etc	.....	61 30	.....	805 47	225 33	164 16	23 75	.....	1,280 01
Hespeler, post office	9 24	.....	.....	.....	.....	.....	.....	.....	9 24
Huntsville, post office	.....	.....	197 92	.....	.....	.....	.....	.....	197 92
Ingersoll, post office, etc	.....	344 30	.....	863 60	1,006 85	135 02	43 04	.....	2,392 81
Kapuskasing experimental farm	116 23	.....	.....	.....	815 92	.....	.....	.....	932 15
Kemptville, post office, etc	.....	36 90	.....	85 76	679 41	233 18	.....	.....	1,035 25
Kenora, post office, etc	.....	122 02	.....	859 29	1,143 01	436 53	89 50	.....	2,650 35
Kincardine, post office	.....	73 49	.....	277 96	782 82	398 10	30 00	.....	1,562 37
Kingston, custom house	.....	980 77	.....	1,048 57	723 00	178 46	62 16	.....	2,992 96
" immigration office	.....	14 80	180 00	.....	3 00	6 00	.....	.....	203 80
" income tax office (Bibby B.)	.....	59 55	1,500 00	170 20	.....	69 15	3 30	.....	1,802 20

Kingston, income tax office (McMahon bldg.)		0 40	10 00	33 00		5 82			49 22
" " " (Northern Crown bank)		71 04		2 00		6 40			79 44
" inland revenue office, etc		574 54	2,398 56	793 51	806 80	217 36	83 15		4,873 92
" post office, etc		1,708 13		965 57	1,090 60	492 14	62 14		4,318 58
" R. M. C. educational block	201,359 51								201,359 51
Kingsville, post office	2,011 26								2,011 26
Kitchener, examining warehouse		3 93	1,440 00	120 00		6 32	5 40		1,575 65
" G.T.R. station mail room			50 00						50 00
" post office, etc		73 71		862 11	781 26	195 06	27 45		1,939 59
Lakefield, post office		36 00		802 28	560 55	168 85			1,567 68
Lansdowne, post office			25 00						25 00
Leamington, post office, etc		12 01		719 98	236 80	198 32	29 00		1,196 11
Lindsay post office, etc	17 83	198 69		928 70	924 72	238 42	35 75		2,344 11
Listowel, post office, etc		211 08		811 86	610 25	118 88	50 86		1,802 93
London, custom house, etc		739 14		2,115 42	1,403 53	335 41	73 94		4,667 44
" post office	2,235 37	59 15		3,712 03	4,096 43	577 42	295 08		10,975 48
" post office storage			80 00						80 00
L'Orignal, post office			125 00						125 00
Markham post office		3 80		600 00	239 98	47 97	5 00		896 75
Merrickville, post office			200 00						200 00
Midland, post office, etc		514 50		844 00	546 80	168 15	30 15		2,103 60
Mildmay, post office, etc		4 50		67 35	110 71	33 39			215 95
Milton, post office		117 80		839 58	441 57	83 19	16 50		1,498 64
Milverton, post office, etc		5 46		690 45	457 49	126 93			1,280 33
Mitchell, post office		170 45		785 98	530 95	69 66	40 00		1,597 04
Mount Forest, post office		42 15		459 10	499 50	198 01	15 68		1,214 44
Napanee, post office		220 92		894 81	681 25	205 92	72 41		2,075 31
Newmarket, post office, etc		33 40		829 51	424 29	55 85	43 67		1,386 72
Niagara Falls, post office, etc		203 53		908 11	1,051 18	108 13	55 47		2,326 42
North Bay, Angus Block, Hydro. Survey			360 00						360 00
" C.P.R. mail room			557 81						557 81
" McCool bldg., Hydro. Survey			120 00						120 00
" post office, etc		460 81	22 00	1,302 34	1,385 87	250 96	35 64		3,457 62
Norwich, post office, etc		2 75		726 65	799 80	82 20	25 00		1,636 40
Orangeville, post office, etc		31 85		1,088 65	435 18	65 25	20 00		1,640 93
Orillia, post office, etc		238 68		813 53	1,315 25	196 19	28 36	14 85	2,606 86
Oshawa, examining warehouse		19 05		140 10	438 35	4 25	17 14		618 89
" post office, etc	3,286 24	215 14		801 54	680 96	159 04	48 98		5,191 90
Owen Sound, post office, etc		606 50		1,093 12	1,083 99	121 36	111 22		3,016 19
Palmerston, post office, etc		182 17		796 36	894 19	171 18			2,043 90
Paris, post office		66 64		761 21	645 40	108 01	45 60		1,626 86
Parkhill, post office, etc		159 22		207 92	209 90	125 33	20 00		722 37
Pembroke, post office, etc	4,615 80	217 66		861 74	890 25	425 14	40 00		7,050 59
Perth, inland revenue office		5 95	447 75						453 70
" post office	4 24								4 24
Peterboro, custom house		775 61		796 90	504 00	121 19	50 00		2,247 70
" post office, etc		517 91		1,360 03	997 60	209 31	75 00		3,159 85
" weights and measures office			300 00						300 00
Petrolia, post office, etc		25 83		849 90	694 84	154 89	27 82		1,753 28
Picton, post office, etc		103 55		782 94	671 00	165 08	16 50		1,739 07

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921—*Continued*

Name of Building	Construction and Improvements	Repairs and Furniture	Rents	Salaries and Supplies for Caretakers	Heating	Lighting	Water	Power	Total
PUBLIC BUILDINGS—*Continued*	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ontario—Contiaued.									
Picton, weights and measures office			72 00		45 00				117 00
Port Arthur, examining warehouse, etc		95 35	30 50	4,865 47	4,724 07	280 33	116 12	552 17	10,664 01
" post office, etc		798 17		814 16	1,184 50	226 66	46 76		3,070 25
Port Colborne, post office		55 18		801 81	348 10	90 84	20 00		1,315 93
Port Hope, post office, etc		103 02		860 65	882 60	910 15	14 87		2,771 29
Port Perry, post office		118 13		855 93	382 19	191 73	48 31		1,596 29
Prescott, custom house		262 50		57 65	329 50	45 94	60 00		755 59
" post office	2,018 70	71 75		1,172 22	565 00	133 25	60 00		4,020 92
Preston, post office, etc		332 95		791 25	827 06	131 31	134 80		2,217 37
Renfrew, post office, etc		312 33		957 42	977 35	100 44	27 00		2,374 54
Ridgetown, post office			300 00						300 00
St. Catharines, entomological laboratory	324 18								324 18
" income tax office		40 00	687 50						727 50
" post office, etc	4,081 16	651 84		1,320 15	1,219 90	109 39	195 32		7,577 76
St. Mary's post office, etc		83 68		734 91	700 00	203 15	62 24		1,783 98
St. Thomas, post office	6,236 91	249 25		943 30	891 25	228 84	30 28		8,579 83
Sandwich, post office, etc		87 38		834 73	677 53	50 33			1,649 97
Sarnia, post office, etc		510 64		950 39	651 90	223 29	170 00		2,506 22
Sault Ste. Marie, C.P.R. station, mail room		61 00							61 00
" post office, etc	2,428 48	496 14	92 97	2,876 41	2,125 26	410 36	124 24	441 00	8,994 86
Seaforth, post office		49 79		791 76	903 78	113 48	16 00		1,874 81
Shelburne, post office, etc		187 70		789 76	593 66	139 69	11 00		1,721 81
Simcoe, post office, etc		243 98		832 48	245 70	136 91	20 00		1,479 07
Smith's Falls, post office, etc		196 26		793 25	787 50	323 68	88 00		2,188 69
Steelton, post office		5 60		719 98	535 64	46 94	27 00		1,335 16
Stratford, post office, etc		138 07		926 10	1,265 29	262 15	72 50		2,664 11
Strathroy, post office, etc	11 85	16 80		807 81	610 50	101 35	22 50		1,570 81
Sturgeon Falls, post office			837 50			40 84			878 34
Sudbury, post office, etc	2,703 00	419 78		1,122 25	3,032 88	1,399 67	198 16		8,965 74
Tilbury, post office		20 65		798 83	234 49	129 78	14 00		1,197 75
Tillsonburg, post office, etc		26 65		685 85	571 80	109 41	25 59		1,419 30
Toronto, Asst. Receiver General's office		179 21							179 21
" Board of Trade B. custom house		239 38	14,246 52	1,687 00		1,127 70			17,301 50
" custom house		315 20							315 20
" " temporary 54-56 Wellington St			1,500 00						1,500 00
" customs express office		799 50		60 24	549 17	489 77	52 96	67 62	2,019 26

" examining warehouse		1,757 99		209 97	3,371 49	593 97	54 79	303 86	6,292 07
" " 276 King St. W.		788 04	10,541 67	224 66	3,814 92	390 11	261 90	261 38	16,232 68
" gas and electric office, 904 Queen St.			240 00			25 73			265 73
" inland revenue building, 10 Toronto St.		807 07		57 58	1,086 50	308 32	40 97	67 05	2,367 49
" Pacific B grain inspection			835 00						835 00
" post office	6,885 44	1,371 74	290 20	2,554 89	13,083 49	7,706 12	683 54	511 70	33,117 12
" taxes and repairs to buildings on site purchased for addition but still occupied by private tenants	9,039 72								9,039 72
" postal station "A", old G.T.R. station		1,310 25	2,400 00	2,983 62	55 20	527 06		251 45	7,527 58
" " "A", new G.T.R. station	374,045 31	79 26		767 73	7 00	1,422 26		354 70	376,676 26
" " "A", temporary		278 88		41 91	384 90	1,197 10	17 78	21 10	1,941 67
" " "C"		574 96		887 01	557 90	244 90	60 51		2,325 31
" " "D"		500 30		877 13	678 76	310 22	78 23		2,444 64
" " "E"		87 57	2,122 05	61 01	21 13	296 97	16 96		2,605 69
" " "F", etc.		169 83	70 40	1,125 18	1,062 25	309 73	88 66		2,826 05
" " "G"		404 87		1,167 46	895 91	333 59	42 08		2,843 91
" " "H"		33 87	1,110 00	25 25	10 76	91 23			1,271 11
" " "J"		409 98	1,500 00	13 59		56 91			1,980 48
" " "K"		110 13		832 01	710 49	124 69	10 80		1,788 12
" " "L"		529 41	1,750 00	48 56		229 94			2,557 91
" post office garage, Richmond St.		935 11	123 45	135 50	1,665 89	273 32	205 55	307 42	3,646 24
" generally		276 78		69,268 39		490 19			70,035 36
Trenton, post office, etc.		147 14		734 98	882 00	143 18	75 00		1,982 30
Uxbridge, post office, etc.		17 25		801 98	590 22	262 83			1,672 28
Vineland, entomological laboratory	63 48								63 48
Walkerton, post office, etc.		32 80		754 38	528 00	200 00	31 00		1,546 18
Walkerville, post office, etc.		359 02		1,340 91	1,321 00	308 75	56 30		3,385 98
Waterloo, post office, etc.		87 00		838 13	1,047 71	127 33	49 44		2,149 61
Welland, post office, etc.	1,583 30	742 08		761 01	559 70	186 99	37 48		3,870 56
Whitby, post office, etc.		20 80		867 25	627 38	80 93	38 00		1,634 36
Wiarton, post office	314 25								314 25
Windsor, engineer's office (D.P.W.)			1,674 30	345 00		0 88			2,020 18
" post office, etc.		1,361 52		2,187 68	364 20	627 12	89 59		4,630 11
Wingham, post office	551 07	29 60		296 88	816 17	357 25	29 56		2,080 53
Woodstock, post office, etc.	5,033 84			1,223 25	853 51	133 28	39 20		7,283 08
Ontario generally, minor offices throughout the Province		2,813 48		8 72		1,219 50			4,041 70
Totals, Ontario (excluding Ottawa)	661,579 83	47,893 22	59,555 94	211,658 96	131,287 20	42,943 67	8,863 68	3,779 70	1,167,562 20
Manitoba									
Brandon, examining warehouse			1,875 00		126 99	15 00			2,016 99
" experimental farm	5,164 70				1,421 21	371 40		35 20	6,992 51
" post office, etc.		1,480 75		1,206 95	1,333 07	1,491 93	165 20		5,680 90
Carman, post office		26 00		802 45	460 53	255 32	13 00		1,557 30
Dauphin, income tax office			360 00						360 00
" post office, etc.	3,533 20	309 92		750 85	854 55	514 32	54 59		6,017 43

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921—*Continued*

Name of Building	Construction and Improvements	Repairs and Furniture	Rents	Salaries and Supplies for Caretakers	Heating	Lighting	Water	Power	Total
PUBLIC BUILDINGS—*Continued.*	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Manitoba—Con.									
Emerson, immigration office			267 33		521 49				788 82
" post office, etc		510 10		758 20	836 25	11 85			2,116 40
Gimli, post office			140 00						140 00
Le Pas, Lands office			600 00						600 00
" post office			600 00		109 50				709 50
Melita, post office			174 17						174 17
Minnedosa, post office, etc		493 05		985 23	922 97	168 00			2,569 25
Morden, experimental farm	9,011 90				513 00	33 12			9,558 02
" post office, etc		328 79		860 55	382 00	82 62			1,653 96
Neepawa, post office, etc		193 65		872 42	387 31	163 40	32 10		1,648 88
Portage la Prairie, examining warehouse			280 00			7 00	14 00		301 00
" armoury, etc		547 35		603 70	825 13	75 35	105 10		2,156 63
" post office	28,943 09	4,141 98		889 10	974 25	721 85	57 25		35,727 52
St. Boniface, post office		249 87		833 60	1,032 44	44 55	21 18		2,181 64
Selkirk, post office		46 14		1,019 96	809 77	57 28	35 36		1,968 51
Shoal Lake, post office			165 00						165 00
Souris, post office, etc		145 80		870 81	475 68	199 09	57 55		1,748 93
Stonewall, post office		14 25		501 75	453 92	50 12			1,020 04
Transcona, post office			470 00						470 00
Tressbank, entomological laboratory	71 18								71 18
Virden, post office, etc		307 88		869 95	725 54	62 95			1,966 32
Winnipeg, Advocate Bldg. (gas and electric insp.)		123 04	900 00	394 76					1,417 80
" Boyd Bldg. (archives, etc.)		23 63	1,730 00			9 00			1,762 63
" C.P.R. mail room		195 69							195 69
" Chamber of Commerce Bldg. (Interior Dept.)		58 37	3,320 00						3,378 37
" custom house, etc	5,549 55	1,852 41		8,516 51	2,999 21	755 91	196 42	128 28	19,998 29
" examining warehouse		2,176 10	23 20	9,145 65	9,020 55	129 97	724 76	145 74	21,365 97
" grain warehouse		2,328 80			92 75				2,421 55
" immigration buildings	1,598 94	1,551 93	37 52	3 35	4,882 53	528 28	357 71	147 13	9,110 39
" Notre Dame Investment Bldg. (D.P.W. and Inland Revenue)		174 50	2,836 94			20 50	1 52		3,033 46
" post office, etc	10,192 50	6,846 12	111 00	13,354 81	10,591 14	3,011 56	811 38	566 14	45,514 65
Winnipeg postal station "A"	27,392 78	368 15		422 47		148 54	20 00	165 60	28,517 54
" " "B"		781 25		1,995 81	1,409 72	110 92	137 46	7 39	4,442 55
" " "C"		6 55	1,485 00	325 73	3 41	56 77			1,877 46
" " "D"		91 17	1,600 00	409 39	375 81	56 70	13 58	1 40	2,548 05
" " "F"		23 95	360 00						383 95

" Scott block (food control, etc.)		4 00	1,980 00						1,984 00
" Tribune B. (Labour Dept.)		35 90	13,151 13			94 87			13,281 90
" Trust and Loan B. (Income tax office)		118 30				1 89			120 19
" Union station mail room		387 81	2,416 00						2,803 81
" Victory B. (Labour Dept.)		20 00	900 00						920 00
" generally		212 63	65 00	9,421 51		4,110 15			13,809 29
Manitoba Generally, minor offices throughout the Province		437 90							437 90
Totals, Manitoba	91,457 84	26,616 73	35,847 29	55,815 51	42,540 72	13,363 21	2,848 16	1,196 88	269,686 34
Saskatchewan									
Battleford, post office, etc		1,028 83		906 75	917 05	663 99	109 49		3,626 11
Big River, forestry office		76 48	140 00						216 48
Estevan, immigration building		425 00							425 00
" post office, etc		453 80		761 25	340 79	208 02	42 70		1,806 56
Gravelbourg, post office, etc		72 75		198 45	390 50	19 35	21 00		702 05
Humboldt, post office, etc	920 03	16 60		915 35	869 30	325 11	83 11		3,129 50
Indian Head, experimental farm	2,753 96				1,886 23	375 65	328 96		5,344 80
" fisheries inspector's office			40 00		7 15				47 15
" forest nursery station		20 57			1,589 76				1,610 33
" forestry office		33 45	43 00			2 23			78 68
" Forestry Branch, Interior Departmental buildings	10,513 20			150 00		48 74	154 66		10,866 60
Kerrobert, immigration building		6 60							6 60
Lloydminster, post office, etc		1,037 69		881 97	831 85	480 95			3,232 46
Maple Creek, post office, etc		147 51		244 17	417 75	118 25	119 50		1,047 18
Melfort, post office, etc		450 35		881 50	699 40	352 96	238 47		2,622 68
Moosejaw, C. P. R. station mail room			198 17						198 17
" Dom. Bank B. (Income tax office)			1,500 00	176 00					1,676 00
" post office, etc		1,304 10	300 00	4,678 50	2,787 16	1,258 63	299 05	496 27	11,123 71
Moosomin, lands office			240 00						240 00
North Battleford, immigration buildings		55 00	1 00		234 06	39 00	26 05		355 11
" post office, etc		106 95		1,313 14	975 70	403 93	322 80		3,122 52
North Portal, immigration building		603 68	1 00		138 08				742 76
Prince Albert, immigration building					315 00	26 23			341 23
" income tax office		11 06							11 06
" post office, etc		1,869 27		2,392 87	2,475 00	924 94	141 64		7,803 72
Regina, Asst. Rec. Gen'l's. office	1,946 54	1,054 15		2,114 53	668 50	538 42	51 81	234 51	6,608 46
" C.P.R. Station mail room			130 50						130 50
" examining warehouse		858 70		822 65	737 67	144 44	19 02	41 03	2,623 51
" immigration building		0 50							0 50
" inland revenue office		33 00	860 00			16 51			909 51
" McCallum-Hill B. (Agriculture, etc.)			700 00			21 93			721 93
" post office, etc	1,814 08	936 57		4,739 34	1,824 42	2,289 88	393 16	336 29	12,333 74
" postal station "A" (C.P.R. Station)		306 41	4,596 45	9 85					4,912 71
" R.C.M.P. barracks	16 00								16 00
" Generally		266 11	1 00			180 25			447 36
Rosthern, experimental farm	7,425 39				689 22				8,114 61

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921—*Continued*

Name of Building	Construction and Improvements	Repairs and Furniture	Rents	Salaries and Supplies for Caretakers.	Heating	Lighting	Water	Power	Total
PUBLIC BUILDINGS—*Continued*	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Saskatchewan—Con.									
Saskatoon, Canada B. (Inland Revenue, etc.)		368 94	4,249 75			73 18			4,691 87
" C.P.R. Station mail room		16 75	540 00						556 75
" custom house		68 66	4,500 00			375 88			4,944 54
" examining warehouse			1,730 00			13 36			1,743 36
" forest nursery station		47 75			229 50				277 25
" immigration building		34 69							34 69
" lands office		375 50	3,000 00						3,375 50
" post office	3,789 00	282 90		2,868 74	1,755 46	1,436 10	151 00	26 40	10,309 60
" weights and measures office			720 00						720 00
Scott, experimental farm	4,403 48				419 16	100 69			4,923 33
Sutherland forest nursery station		1,422 00			971 25				2,393 25
Swift Current, lands office		246 57	1,986 99						2,233 56
" post office		49 90	2,211 33			401 89			2,666 12
Unity, immigration building		25 52	1 00						26 52
West Poplar immigration building					40 00				40 00
Weyburn, post office, etc		915 89		879 20	727 20	468 60	132 14		3,123 03
Yorkton, income tax office			720 00	192 00					912 00
" post office etc		56 79		838 20	684 65	1,060 05	42 50		2,682 19
Saskatchewan, Generally, minor offices throughout the Province		1,654 90				756 32			2,411 22
Totals, Saskatchewan	33,581 68	16,741 89	28,410 19	25,964 46	23,621 81	13,128 48	2,677 06	1,134 50	145,260 07
Alberta									
Athabaska, immigration building		55 00	15 00		197 50				267 50
" post office		1,073 40	180 00		70 00				1,323 40
Banff, forestry office		60 00							60 00
Bassano, post office, etc	84 00	130 60		732 75	608 60	277 27	33 75		1,866 97
Calgary, Assistant Receiver General's office		2,467 53	80 45	1,036 71	69 52	218 05	21 39		3,893 65
" Blow building (irrigation, etc.)		1,725 59	11,607 64	896 71		425 34			14,655 28
" Canada Life building (P.O. and I.R.)		24 10	1,386 90	9 29		12 44			1,432 73
" C.P.R. station, mail room		93 87	162 46						256 33
" Craig building (Immigration and Colonization)			140 00						140 00
" Dominion Bank building, forestry office		444 91	2,400 00			8 89			2,853 80
" Examining warehouse		2,481 46		7,420 16	1,636 47	739 60	591 21	1,187 46	14,056 36

" Herald building (Railway Commission)		3 00	1,735 00			13 43			1,751 43
" Immigration building				120 00	29 40	36 35	18 58		204 33
" Judge Travis building (Immigration)			137 50			6 90			144 40
" Lancaster building (post office)		3,618 54	26,747 52	2,464 56		2,358 26	1 43		35,190 31
" Leeson-Lincham building (Interior Department)			480 00						480 00
" Moffat building (Interior Department)			300 00			1 89	3 80		305 69
" post office (site)	571 96		1,229 08						1,801 04
" Thomas building (Interior Department)			1,745 40			11 96			1,757 36
" Travellers building (seeds office)		1,187 00	2,750 00			83 54		92 56	4,113 10
" Woodcraft building (Irrigation Branch)		12 65	1,110 00			8 70			1,131 35
" Generally						1,153 57			1,153 57
Coutts, immigration building	89 00		1 70						90 70
Edmonton, C.N.R. station, mail room			325 00						325 00
" examining warehouse		4 25	4,320 00	3 00		19 09		48 52	4,394 86
" immigration building		1,354 58	1 00		506 42	120 74	61 29		2,044 03
" lands office		287 63	4,320 00	514 03		388 18			5,509 84
" McLeod building (weights and measures office)			470 00						470 00
" Mortlake building (P.O. Department)	2,776 64	184 10	5,700 00			46 62			8,707 36
" post office, etc	948 82	1,512 91	222 05	9,516 90	1,970 71	1,982 10	152 16	415 19	16,720 84
" Tegler building (forestry office)			1,065 00						1,065 00
" South (Strathcona) post office		2,904 15		995 35	606 87	284 72	92 07		4,883 16
" Generally						65 94			65 94
Edson, immigration building					285 08				285 08
Grande Prairie, immigration building			45 85		148 80				194 65
" lands office		1,163 50		401 48	450 91	80 25	1 50		2,097 64
Gronard, immigration building			240 00						240 00
High Prairies, lands office			720 00						720 00
Lacombe, experimental farm	9,001 36				863 20	290 76			10,155 32
Lethbridge, experimental farm	4,962 92				141 00	63 36			5,167 28
" post office, etc	1,791 83	205 42		4,888 30	1,462 25	1,023 38	193 70	386 45	9,951 33
Macleod, custom house		104 30			98 70	61 79	37 20		301 99
Medicine Hat, post office, etc		101 55		2,001 10	360 71	477 44	158 48		3,099 28
Peace River Crossing, lands office		754 42	720 00		212 80				1,687 22
" " immigration building			93 44		194 75				288 19
" " post office		17 45	335 09						352 54
Pincher Creek, forestry office		56 57	520 00						576 57
Red Deer, public building	11,000 58	8 00	137 10	1,051 70	483 50	29 13	39 00		12,749 01
Rocky Mountain, forestry office			322 50		60 19				382 69
Spirit River, immigration building			5 00		237 27				242 27
Vermilion, immigration building			2 80						2 80
Wainwright, immigration building		26 43							26 43
Wetaskiwin, post office		343 70		845 25	490 50	380 92	127 76		2,188 13
Alberta, generally, minor offices throughout the province		898 06				242 30			1,140 36
Totals, Alberta	31,227 11	23,304 67	71,773 48	32,897 29	11,185 15	10,912 91	1,533 32	2,130 18	184,964 11

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921—*Continued*

Name of Building	Construction and Improvements	Repairs and Furniture	Rents	Salaries and Supplies for Caretakers	Heating	Lighting	Water	Power	Total
PUBLIC BUILDINGS—*Continued.*	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
British Columbia									
Agassiz, experimental farm	3,120 15				676 16	75 00			3,871 31
Alberni, post office (old)			80 00						80 00
Ashcroft, public building		260 40		1,202 08	212 88	474 20	129 95		2,279 51
Atlin, post office, etc		32 75		167 50	350 00	143 75			694 00
Bella Coola, naval service			60 00						60 00
Chase, public building		4 48	30 00	5 30	138 50	3 00	12 00		193 28
Chilliwack, post office		16 00		602 50	435 62	77 73	36 00		1,167 85
Comox, post office, etc		674 30		397 07	325 02	21 74			1,418 13
Cranbrook, post office		261 12		1,119 58	982 90	465 07	72 23		2,900 90
Cumberland, post office, etc		239 05		827 44	265 63	311 52	60 00		1,703 64
Duncan, post office, etc		328 00		979 77	684 00	290 68	30 00		2,312 45
Fernie, post office, etc		40 85		1,209 79	428 00	213 35	54 50		1,946 49
Grand Forks, post office, etc		105 00		919 37	893 72	167 60	75 00		2,160 69
Greenwood, post office, etc		51 65		897 94	633 99	185 81	78 00		1,847 39
Huntingdon, immigration building		437 50							437 50
Invermere, experimental farm	1,509 25				601 95				2,111 20
Kamloops, Acadia Block (Interior Department)			4,555 75						4,555 75
" forestry office			180 00						180 00
" Tremont building, post office (temporary)		810 99	1,200 00	978 45	928 54	458 19	36 00		4,412 17
Ladysmith, post office		444 97		805 62	229 50	56 18	33 00		1,569 27
Naas River, residence for fisheries overseer	1,700 00								1,700 00
Nanaimo, post office, etc		876 43		1,842 03	877 20	670 50	36 00		4,302 16
Nelson, engineers office (D.P.W.)			480 00						480 00
" income tax office			216 00						216 00
" post office, etc		437 30	114 00	896 70	865 09	518 20	72 00		2,903 29
New Westminster, Indian and Fisheries Branch		32 53		1,034 55	303 60	35 61	37 42		1,443 71
" post office, etc	226 50	1,002 61	191 50	2,935 19	1,383 10	482 44	68 55	408 00	6,697 89
North Vancouver, post office		390 50		934 15	424 00	157 68	10 80		1,917 13
Pacific Highway, immigration office				15 95	147 20	63 37			226 52
Port Alberni, post office, etc		203 75		799 45	227 85	123 25	18 76		1,373 06
Prince Rupert, examining warehouse			600 00						600 00
" Federal Block, post office, etc		133 66	8,449 00	88 50		792 06	67 50		9,530 72
" fisheries office			850 00						850 00
" immigration building		19 60	5 00		551 50		13 75		589 85
Revelstoke, Canadian Bank of Commerce (Interior Department)		59 10	1,200 00						1,259 10
" post office		139 79							139 79
Rossland post office, etc		319 70		1,366 00	1,187 81	283 60	86 17		3,243 28

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921—*Continued*

Name of Building	Construction and Improvements	Repairs and Furniture	Rents.	Salaries and Supplies for Caretakers.	Heating.	Lighting.	Water.	Power	Total
PUBLIC BUILDINGS—*Continued*	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
British Columbia—Continued.									
Salmon Arm, fire ranger's office			30 00						30 00
Sidney, experimental farm	5,810 67				653 20	179 26			6,643 13
Stewart, immigration building		16 30							16 30
Summerland, experimental farm	6,131 05				300 75				6,431 80
Union Bay, post office		82 60		264 50	360 75	125 28			833 13
Vancouver, Assay office (old post office)		1,676 85		2,787 00	1,381 46	262 28	69 40		6,176 99
" Birks, B. (Labour department)			706 50			1 66			708 16
" Cotton bldg.(Agriculture department)			27 50						27 50
" dredging office (D.P.W.)		7 00							7 00
" Empire bldg. (Marine and Fisheries department)		6 49	540 00			9 35			555 84
" examining warehouse		1,732 12	5 35	9,312 02	3,744 94	248 89	130 60	543 00	15,716 92
" Fairmont Barracks (R.C.M.P.)	71,243 77								71,243 77
" Fisheries office, 519 Pender st.		1 50							1 50
" fumigating shed, C.P.R. wharf		148 05							148 05
" immigration detention building		2,654 82		38 24	3,432 80	2,119 44	389 35	218 64	8,883 29
" London bldg., income tax office			5,742 25			16 74			5,758 99
" mail bag depository			1 200 00						1,200 00
" Pacific building, (Geological survey)		83 31	1,750 84			10 83			1,844 98
" post office, etc. (new)	6,889 67	1,514 46	78 00	16,424 72	5,368 65	3,245 77	215 25	317 28	34,083 80
" postal station "A" (C.P.R.)		178 80	3,079 28						3,258 08
" " "B"		263 59	7,200 00	2,423 53	1,452 86	75 45			11,415 43
" " "C"		264 40		1,200 14	836 97	50 30	25 10		2,376 91
" " "D"			300 00						300 00
" Rogers Block (Fisheries insp.)		107 10	2,570 00			66 00			2,743 10
Vernon, post office, etc.		650 31		1,123 12	702 08	472 96	41 25		2,989 72
Victoria, Ames-Holden building, (examining warehouse)		57 34	3,900 00	1,143 06	136 52	61 39	20 68	72 00	5,390 99
" astronomical observatory (Little Saanich Mountain)		2,212 18		1,659 65	342 61	1,021 79		264 86	5,501 09
" fumigating plant (C.P.R. wharf)			30 00						30 00
" hydro-survey			900 00						900 00
" immigration building		1,002 75			950 09	207 52	209 14		2,369 50
" marine office (old custom house)		342 06		1,097 80	495 27	117 76	33 38		2,086 27
" meteorological observatory		809 26		1,183 40	335 34	175 89	25 73		2,529 62
" pilotage board				40 00	56 18	19 20			115 38
" post office, etc. (new)	2,672 47	912 19	269 00	14,650 28	4,497 99	2,818 04	107 16	821 10	26,748 23

" " " (old), taxes due city for 1919	1,640 73	303 77	.....	397 70	199 01	88 87	157 04	.....	2,787 12
" generally	.....	274 59	.....	.....	.....	24 01	.....	.....	298 60
Williams Head, quarantine station, land and new buildings	5,421 92	.....	.....	.....	.....	.....	.....	.....	5,421 92
" quarantine station, repairs to existing buildings	.....	2,778 23	.....	.....	7,237 33	.....	1,114 38	.....	11,129 94
" quarantine station, water system	3,238 04	.....	.....	.....	.....	.....	.....	.....	3,238 04
British Columbia generally, minor offices throughout the Province	.....	1,514 07	74 45	.....	7 50	10 34	6 00	.....	1,612 36
Totals, British Columbia	109,604 22	26,916 17	46,614 42	73,770 09	46,246 06	17,499 55	3,572 09	2,704 88	326,927 48

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921—*Concluded.*

Name of Building	Construction and Improvements	Repairs and Furniture	Staff and Maintenance	Total
PUBLIC BUILDINGS	$ cts.	$ cts.	$ cts.	$ cts.
Yukon Territory				
Heating, lighting, water, etc., for all buildings in Yukon Territory	.....	.....	39,432 35	39,432 35
Total, Yukon Territory	.....	.....	39,432 35	39,432 35
Generally				
Advertising coal tenders for Dominion buildings	.....	.....	3,736 92	3,736 92
Barracks for R.C.M.P., Arctic regions	352 27	.....	.....	352 27
Flags for Dominion public buildings	.....	.....	1,119 29	1,119 29
Post office fittings and supplies, stock stored at Toronto for distribution throughout the provinces	11,615 63	.....	.....	11,615 63
Printing, stationery, instruments, travelling, etc.	.....	.....	26,740 79	26,740 79
Salaries of resident clerks of works, etc.	.....	.....	67,405 30	67,405 30
Totals, generally	11,967 90	.....	99,002 30	110,970 20

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921

Name of Work	Dredging	Construction and Improvements	Repairs	Staff and Maintenance	Total
HARBOURS AND RIVERS	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Nova Scotia—					
Abercrombie wharf (Pictou)			60 50		60 50
Advocate, wharf			2,601 33		2,601 33
Argyle Sound	500 00				500 00
Arisaig, breakwater			1,477 18		1,477 18
" wharf			437 63		437 63
Avonport, wharf			1,379 83		1,379 83
Baker's Point (Halifax), wharf			200 00		200 00
Bailey's Brook, extension to pier		375 37			375 37
Ballantyne's Cove	5,147 30				5,147 30
Barachois, protection works			199 72		199 72
Barrington Passage, wharf		4,169 10	20 63		4,189 73
Barrington's Cove, Sidney Mines, wharf			1,399 99		1,399 99
Bass River, new wharf		1,071 65			1,071 65
Battery Point, breakwater		778 81	149 00		927 81
Bayfield, breakwater			1,170 13		1,170 13
Bay St. Lawrence, opening channel		250 22			250 22
Bear Cove (Digby), breakwater		532 99			532 99
" (Halifax), skidway and shed		1,202 42			1,202 42
Belliveau's Cove, breakwater			800 00		800 00
Blandford, wharf			39 70		39 70
Bluff Head, breakwater			97 79		97 79
Boisdale, wharf		2,665 61			2,665 61
Breton Cove, wharf		270 47			270 47
Broad Cove Marsh, wharf			161 20		161 20
Burke's Head, retaining wall		398 99			398 99
Burlington Centre, wharf			1,572 69		1,572 69
Caldwell's Cove, breakwater			832 47		832 47
Canada Creek, wharf			148 81		148 81
Cap Rouge, breakwater			68 13		68 13
Caribou (Pictou), causeway			498 50		498 50
Chebogue Hr., digging channel		200 00			200 00
Chegoggin, rem. of gravel		249 87			249 87
Cheticamp Point, breakwater			499 45		499 45
Chimney Corner (Inverness), wharf	2,731 20	2,697 83			5,429 03
Cow Bay (Port Morien), breakwater			5,984 12		5,984 12
Cribbin's Point, wharf			300 02		300 02
Croft's Cove, wharf			240 77		240 77
D'Escousse, wharf			751 07		751 07
Devil's Island, breakwater			5,910 21		5,910 21
Digby, pier renewals			4,984 06		1,984 06
" channel	37,695 46				37,695 46
" Raquette	9,921 47				9,921 47
Drumhead, breakwater		1,322 30	1,177 70		2,500 00
Duncan's Cove, breakwater		72 63			72 63
East Jordan, breakwater			567 40		567 40
East End (Cripple Creek), Shelburne Co., protection wall			520 22		520 22
East Ferry, breakwater		1,400 00	28 90		1,428 90
East River (Pictou), lock and dam				1,765 26	1,765 26
Eastern Passage, breakwater		3,835 56			3,835 56
Eatonville, breakwaters		3,479 54			3,479 54
Feltzen South, breakwater			1,198 05		1,198 05
Freeport, breakwater wharf			1,254 19		1,254 19
Fourchu	1,530 90				1,530 90
French River (Victoria Co.), protection works, etc.		117 95	289 62		407 57
" (Pictou Co.), new wharf		785 02			785 02
Friar's Head, harbour improvements		78 31			78 31
Fruid's Point, wharf			31 03		31 03
Garbarous, breastworks		2,038 21			2,038 21
Georgeville, wharf			592 05		592 05
Glace Bay, harbour improvements	15,313 93				15,313 93
Goose Bay (Yarmouth Co.), wharf			26 60		26 60
Grand Narrows, wharf			499 76		499 76
Granville Centre, wharf			853 40		853 40
Grosses Coques, renewal of sea wall			1,461 55		1,461 55
Half Island Cove, breakwater			294 42		294 42

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921.—*Continued*

Name of Work	Dredging	Construction and Improvements	Repairs	Staff and Maintenance	Total
HARBOURS AND RIVERS	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Nova Scotia—Continued					
Halifax Graving Dock		25,636 18			25,636 18
" " Exchequer Court award		1,545,137 35			1,545,137 35
" Harbour, to refund Messrs. Foley Bros., Welch, Stewart & Fauquier amount of royalty paid by the Dept. of Public Works for filling taken from Halifax Hr. and used in connection with their contract for Ocean Terminal Docks		12,004 05			12,004 05
Harbourville, breakwaters			797 87		797 87
Hiltz Narrows, breakwater (Topping)			805 38		805 38
Hubbard's Point, wharf			286 70		286 70
Hunt's Point, beach protection		600 59			600 59
Indian Brook Flats, wharf			185 90		185 90
Inverness, harbour improvements	7,434 19	6,934 99			14,369 18
Iona, wharf (new)			1,477 46		1,477 46
Irish Cove, wharf reconstruction		2,911 86			2,911 86
Jeddore, Oyster Ponds (Halifax Co.), wharf			700 00		700 00
Joggin's Mines, wharf			249 82		249 82
Johnston's Hr., wharf			700 02		700 02
Kelly's Cove, breakwater	778 15		3,785 22		4,563 37
Kempt Head, wharf			69 96		69 96
Ketch Harbour, breakwater			566 38		566 38
Kraut Point, wharf			98 85		98 85
Larry's River, breakwater			927 71		927 71
Litchfield, groyne		2,178 35			2,178 35
Little Bass River, protection work			1,070 15		1,070 15
Little Bras d'Or, breakwater			349 98		349 98
Little Brook, breakwater			1,320 30		1,320 30
Little Narrows, wharf			298 34		298 34
Liverpool, channel	31,988 24				31,988 24
Livingstone's Cove, wharf		2,698 69	250 00		2,948 69
Long Point (Craigmore), breakwater			1,049 32		1,049 32
Lower L'Ardoise, breakwater			1,246 64		1,246 64
Lower Kingsburg, breakwater			249 00		249 00
Lower Plymouth, wharf			412 13		412 13
Lunenburg	2,775 80				2,775 80
Mahou Harbour, jetties			1,597 50		1,597 50
Maitland Ferry, wharf		2,190 40	427 87		2,618 27
Malignant Cove, wharf			68 25		68 25
Marble Mountain, wharf			500 00		500 00
Margaree Island, breakwater			373 10		373 10
" Hr., improvements	49,445 88		8,315 32		57,761 20
McKay's Point (Judique), breakwater			1,035 29		1,035 29
McNair's Cove, wharf			1,331 41		1,331 41
Meat Cove, breakwater			146 44		146 44
Melbourne (Yarmouth Co.), wharf			490 83		490 83
Meteghan, breakwater extension		10,860 01			10,860 01
Middle South (Lunenburg)	4,275 95				4,275 95
Mill Creek (King's Co.), wharf	37 50				37 50
Morden (King's Co.), breakwater			499 96		499 96
Musquodoboit Harbour, wharf			162 09		162 09
Mulgrave, railway dock	2,332 89				2,332 89
Neil's Harbour, breakwater wharf			199 52		199 52
New Campbellton, wharf	4,807 70		1,099 93		5,907 63
New Harbour, breakwater			1,786 60		1,786 60
Newport Landing, wharf			173 57		173 57
North Ingonish, breakwater		109 25			109 25
North Sydney, wharf			237 24		237 24
Nyanza, wharf			99 80		99 80
Ogilvie's, breakwater			2,265 87		2,265 87
Owl's Head, wharf			4,509 96		4,509 96
Oyster Pond, breakwater			1,438 54		1,438 54
Parker's Cove, breakwater			1,816 83		1,816 83

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921.—*Continued*

Name of Work	Dredging	Construction and Improvements	Repairs	Staff and Maintenance	Total
HARBOURS AND RIVERS	$ cts.	$ cts	$ cts.	$ cts.	$ cts.
Nova Scotia—Continued					
Parrsboro, wharf			315 00		315 00
Petite Riviere (Lunenburg Co.), breakwater			192 46		192 46
Picton Harbour, Abercrombie wharf (*See* Abercrombie)					
Picton Harbour	4,857 15				4,857 15
Piper's Cove, wharf approach			345 16		345 16
Pleasant Bay (Inverness Co.), wharf			389 91		389 91
" Harbour, wharf			1,424 86		1,424 86
Point Tucker, ferry dock	455 20				455 20
Port Dufferin East (Halifax Co.), wharf			274 55		274 55
Port Beckerton, wharf			695 90		695 90
Porter's Lake, canal	698 00				698 00
Port George (Annapolis Co.), breakwater			1,653 38		1,653 38
Port Greville, beach protection			1,300 00		1,300 00
" breakwater			299 93		299 93
Port Hawkesbury, wharf			2,894 93		2,894 93
Port Hood, wharf			91 75		91 75
Port Joli (Queens Co.), wharf			82 42		82 42
Port Lorne, wharf			10,672 92		10,672 92
Port Maitland, breakwater		7,444 34			7,444 34
Portuguese Cove, breakwater			785 52		785 52
Port Wade, wharf			611 42		611 42
Poulamond, wharf			49 13		49 13
River John, wharf			30 00		30 00
Salmon River (Digby Co.), removal of boulders		34 33			34 33
Sanford, breakwater			2,488 07		2,488 07
Sandy Cove, breakwater		2,238 60	100 90		2,339 50
Saulnierville, breakwater			398 04		398 04
Saw pit, wharf			143 15		143 15
Scotch Cove (White point), breakwater			262 80		262 80
Seaforth, breakwater		75 61	15 08		90 69
Seaside, wharf			879 71		879 71
Sheet Harbour West (Halifax), wharf			450 90		450 90
Shelburne, wharf			52 01		52 01
Shenacadie, wharf		12,018 66			12,018 66
Short Beach, breakwater			237 39		237 39
Smiley's Point, breakwater			96 95		96 95
Sober Island, wharf extension		5,994 13			5,994 13
South Cove (Victoria Co.), wharf			270 00		270 00
South East Cove, Tancock Island, breakwater			60 00		60 00
South Gut (Victoria Co.), wharf			50 08		50 08
South Ingonish, beach protection			201 65		201 65
South Lake (Lakevale), piers			1,181 10		1,181 10
Spencer's Island, breakwater			596 32		596 32
Spry Bay (Josie's), wharf			2,633 46		2,633 46
Spry Bay (Leslie's), wharf			106 62		106 62
Stoney Island, breakwater			64 31		64 31
Sugar Loaf (Cape North), wharf		568 50			568 50
Summerville, wharf			207 35		207 35
Sydney Harbour	8,165 45				8,165 45
Tennycape, wharf			1,150 39		1,150 39
Terrance Bay, wharf			249 98		249 98
The Wharves, shore protection and breakwater			709 00		709 00
Three Fathom Harbour, breakwater			961 27		961 27
The Points (*See* West Bay)					
Trenton (East River)	6,891 28				6,891 28
Trout Cove, wharf			411 60		111 60
Upper Port Latour, wharf			1,049 44		1,049 44
Victoria Bridge (Cape Breton), wharf			70 85		70 85

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921.—*Continued*

Name of Work	Dredging	Construction and Improvements	Repairs	Staff and Maintenance	Total
HARBOURS AND RIVERS	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Nova Scotia—Concluded					
Vogler's Cove, breakwater			125 00		125 00
" wharf			908 30		908 30
Wallace ,wharf			1,575 10		1,575 40
Walton (Hants Co.), breakwater			64 09		64 09
Washabuck (Upper), wharf			247 80		247 80
Watt Settlemeat, wharf			250 10		250 10
Wedgeport, wharf			153 10		153 10
West Arichat, breakwater			2,889 08		2,889 08
" wharf			1,973 03		1,973 03
West Bay, "The Points", wharf			651 26		651 26
West Chezzetcook, breakwater			113 20		113 20
Westport, wharf			3,995 61		3,995 61
Whycocomagh, wharf			1,206 94		1,206 94
Windsor	480 50				480 50
Yarmouth Harbour, improvements	45,761 65				45,761 65
Yarmouth Bar, improvements		3,857 34			3,857 34
Young's Landing, wharf				564 66	564 66
Generally	2,172 87			2,162 78	4,335 65
Totals, Nova Scotia	246,198 66	1,671,486 08	137,613 44	4,492 70	2,059,790 88
HARBOURS AND RIVERS					
Prince Edward Island—					
Annandale, pier			2,324 97		2,324 97
Bay Fortune	11,209 19				11,209 19
Belfast, wharf			134 30		134 30
Belle River Harbour, breakwater			114 42		114 42
Bonshaw, wharf			110 84		110 84
Cape Traverse, pier			1,512 58		1,512 58
Chapel Point, pier			129 59		129 59
Charlottetown	28,215 94				28,215 94
Georgetown, wharf	2,573 64		56 27		2,629 91
Graham's Pond, breakwater			1,415 26		1,415 26
Haggertie's wharf			414 20		414 20
Hickey's wharf		3,160 43			3,160 43
Kier's Shore, pier			163 70		163 70
Miminigash Harbour, breakwater		2,686 76			2,686 76
Murray Harbour, south pier			266 16		266 16
North Lake boat harbour		13,344 00			13,344 00
Pinette, ice break		1,061 46			1,061 46
St. Mary's Bay, wharf			1,092 23		1,092 23
St. Peter's Bay, breakwater			2,418 78		2,418 78
Souris Harbour, breakwater		35,814 00			35,814 00
Southport, wharf			286 27		286 27
Steven's Pier (Montague River), pier			118 48		118 48
Tignish Harbour, protection works			1,283 08		1,283 08
Vernon River Bridge	22,227 25				22,227 25
Victoria, pier			1,973 57		1,973 57
West Point, wharf			996 52		996 52
West River (McArthur's Landing), wharf			709 28		709 28
Wood Islands, breakwater			601 68		601 68
Generally	1,086 43			2,158 78	3,245 21
Totals, Prince Edward Island	65,312 45	56,066 65	16,122 18	2,158 78	139,660 06
New Brunswick—					
Back Bay, wharf		3,852 90			3,852 90
Bay du Vin, wharf			680 92		680 92
Barker's (Sunbury Co.) wharf			369 90		369 90
Bathurst Harbour, improvements	51,067 42				51,067 42
Black's Harbour, wharf (Charlotte Co.)			27 22		27 22
Black River (St. John), wharf			298 62		298 62

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921.—*Continued*

Name of Work	Dredging	Construction and Improvements	Repairs	Staff and Maintenance	Total
HARBOURS AND RIVERS	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
New Brunswick—Continued					
Buctouche, channel	28,481 42				28,481 42
" wharf			852 28		852 28
Burnt Church, wharf			16 00		16 00
Burton Court House, wharf			657 05		657 05
Campbellton, ferry landing			1,489 46		1,489 46
" wharf			2,022 98		2,022 98
Cape Bald, breakwater pier			4,651 95		4,651 95
Caraquet wharf			248 47		248 47
Chatham	649 20				649 20
Chockfish, breakwater			791 16		791 16
Cocagne, wharf			1,680 46		1,680 16
Cummings Cove (Charlotte Co.), wharf			81 30		81 30
Dalhousie, deep water wharf			781 41		781 41
" ferry wharf			268 36		268 36
Dover (Steeves Landing), wharf			59 67		59 67
Douglastown (Miramichi River)	10 75				10 75
Edgett's Landing, wharf			912 60		912 60
Fairhaven, wharf (slip)			123 56		123 56
Gautreau Village, wharf			218 42		218 42
Grande Anse, breakwater	369 07		79 58		448 65
Huestis Landing, wharf			62 10		62 10
Kouchibougouac, channel, etc.	880 47	3,667 95			4,548 42
Leonardville, wharf (slip)			439 77		439 77
Little Aldouane, wharf			680 12		680 12
Loggieville, wharf			631 23		631 23
Lord's Cove, wharf		140 24			140 24
Lower Newcastle, wharf			114 75		114 75
McAllister's, wharf			325 15		325 15
Mill Cove, wharf			594 54		594 54
Miramichi bay	162 20				162 20
Miramichi River (North West)	7,407 47				7,407 47
Moncton, wharf			1,908 70		1,908 70
Newcastle	10,310 33				10,310 33
New Mills, wharf			775 82		775 82
North Head (Grand Manan Island), breakwater-wharf			5,256 15		5,256 15
Oak Point, wharf			30 51		30 51
Oromocto, wharf	35 34		99 68		135 02
Petit Rocher, breakwater			13,389 08		13,389 08
Quaco (St. Martin's), breakwater reconstruction		510 48			510 48
Renforth, wharf			41 00		41 00
Restigouche	197 75				197 75
Richardson wharf (slip)			178 40		178 40
Richibucto Cape, completion of pier and breakwater	231 76	4,491 25			4,723 01
River St. Charles	243 00				243 00
River St. Louis (lower)	19 50				19 50
Rothesay, wharf			103 55		103 55
St. Andrews, wharf			456 91		456 91
St. George, wharf			3,651 80		3,651 80
St. John Harbour improvements—					
Courtenay Bay		1,096,190 83			1,096,190 83
Dry Dock, subsidy				57,198 88	57,198 88
Long wharf	5,443 02				5,443 02
Negro Point, breakwater			1,674 79		4,674 79
St. John West, piers, sheds, etc.	21,885 06	119,822 75	21,851 94		163,559 75
St. Louis, wharf			688 69		688 69
Scotchtown, wharf			801 95		801 95
Seal Cove, breakwater			132 62		132 62
Shippigan Gully, breakwater			10,420 84		10,420 84
Shippigan Harbour, wharf			135 75		135 75
Stonehaven, breakwater			1,411 09		1,411 09
Thomas Creek, breastwork			198 03		198 03
Tracadie, wharf			1,807 11		1,807 11

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921.—*Continued*

Name of Work	Dredging	Construction and Improvements	Repairs	Staff and Maintenance	Total
HARBOURS AND RIVERS	$ cts.	$ cts	$ cts.	$ cts.	$ cts.
New Brunswick—Concluded					
Tynemouth Creek, breakwater			54 46		54 46
Welchpool wharf (slip)			101 03		101 03
Wilson's Beach, breakwater wharf		8,077 83			8,077 83
Young's Cove, (Queen's Co.), wharf			94 50		94 50
Generally	2,172 87			3,342 76	5,515 63
Totals, New Brunswick	129,566 63	1,236,754 23	87,423 43	60,541 64	1,514,285 93
Quebec—					
Amherst (Point Shea), Magdalen Islds., wharf			4,443 42		4,443 42
Anse a l'Eau (Tadoussac), wharf		6,022 23			6,022 23
Anse aux Gascons, wharf		156 50			156 50
Anse St. Jean, wharf			236 13		236 13
Aylmer, wharf			2,738 80		2,738 80
Baie St. Paul, wharf			599 47		599 47
Baie des Rochers, wharf			359 97		359 97
Barachois de Malbaie, wharf			1,770 68		1,770 68
Batiscan, wharf	35,935 97		1,324 08		37,260 05
Beauharnois	227 50				227 50
Beloeil, protection piers			8,276 90	164 48	8,441 38
Berthierville, wharf	40 50		65 00		105 50
Berthier (en bas), wharf			1,317 00		1,317 00
Bic (Pointe a Cote), wharf			480 90		480 90
" old wharf			949 51		949 51
Buckingham (Labelle), wharf			1,979 98		1,979 98
Cabano, wharf			2,395 36		2,395 36
Cap a l'Aigle, wharf			18 30		18 30
Cap St. Ignace, wharf			379 56		379 56
Cap Sante, wharf			347 39		347 39
Cascades, pier			68 00		68 00
Caughnawaga, wharf			2,496 33		2,496 33
Champlain, wharf			25 00		25 00
Chandler, wharf			2,097 11		2,097 11
Chateauguay, shoal	127 00				127 00
Chicoutimi Basin, wharf		4,997 69			4,997 69
Chicoutimi, wharf			2,339 14	578 36	2,917 50
Cote Ste. Catherine, wharf			235 95		235 95
Coteau du lac, wharf			1,096 99		1,096 99
Coteau Landing, wharf			70 70		70 70
Contrecoeur, wharf			3,140 62	48 00	3,188 62
Cross Point, wharf	74 85		30 00		104 85
Descente des femmes, wharf			238 00		238 00
D'Israeli, wharf			140 15		140 15
Dodd's Landing (Labelle Co.), wharf			5 00		5 00
Dorval	75 00				75 00
Doucet's Landing	11,964 41				11,964 41
Douglastown, breakwater			2,770 57		2,770 57
East Templeton, wharf			534 93		534 93
Echourie	453 50				453 50
Etang du Nord	323 40				323 40
Fabre, wharf		5,191 45	101 50		5,292 95
Fassett, wharf			661 33	21 00	682 33
Father Point, wharf			1,929 13		1,929 13
Fort Coulonge, wharf		1,015 11			1,015 11
Gaspe Basin, wharf			890 34		890 34
Gaspe, deep water wharf			721 21		721 21
Gatineau Point, wharf			81 63		81 63
Graham, wharf			224 87		224 87
Grand Entree, Magdalen Islds., wharf			10 00		10 00
Grand Nord (Berthier Co.)	71 00				71 00
Grande Riviere (Gaspe), pier			9,841 22		9,841 22
Grondines, wharf			100 70		100 70
Grosse Ile (quarantine station), retaining wall		1,708 67			1,708 67

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921.—*Continued*

Name of Work	Dredging	Construction and Improvements	Repairs	Staff and Maintenance	Total
HARBOURS AND RIVERS	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Quebec—Continued					
Grosse Ile (quarantine station), wharves			5,468 10		5,468 10
Grosse Roche, wharf			291 20		291 20
Harricanaw River	6,544 57				6,544 57
Honfleur, wharf			252 75		252 75
Hull, wharf			398 44		398 44
Iberville, wharf	272 00				272 00
Ile aux Coudres, wharf			350 34		350 34
Ile du Pads-Ile aux Castors	1,801 18				1,801 18
Ile Perrot (North), wharf			1,784 39		1,784 39
" (South), wharf			630 25		630 25
Ile Verte (Notre Dame des Sept Douleurs), eastern landing wharf		4,546 33			4,546 33
Ile Verte (Notre Dame des Sept Douleurs), western wharf		56 25			56 25
Jersey Cove	388 89				388 89
Lac Bourget (Laroche), wharf			136 18		136 18
Lac Megantic, wharf			117 00		117 00
Lanoraie, wharf			2,155 32	77 50	2,232 82
Laprairie, protection works		13,512 70		38 00	13,550 70
Lauzon, "Champlain" dry dock		41,703 39		7,446 31	49,149 70
Lauzon, "Lorne" dry dock				34,393 44	34,393 44
Lavaltrie, wharf			273 16	49 87	323 03
Les Eboulements, wharf			139 33		139 33
Levis, deep water wharf		208 00	1,265 91	1,600 00	3,073 91
L'Islet, wharf			500 00		500 00
Lotbiniere, wharf			73 75		73 75
Louiseville	166 45		1,023 34		1,189 79
Magog, wharf			402 98		402 98
Maguasha, wharf			510 86		510 86
Masson, wharf			131 50		131 50
Montmagny, wharf			4,384 04		4,384 04
Montebello, wharf			731 12		731 12
Mont Louis, wharf			1,225 89		1,225 89
Montreal, dry dock				105,000 00	105,000 00
Moose Bay, wharf			24 70		24 70
Murray, Bay, wharf	1,808 09		329 01		2,137 10
New Carlisle, wharf	128 10		49 37		177 47
New Richmond, wharf			173 05		173 05
Nicolet	208 50				208 50
" wharf (downstream)			547 11		547 11
" " (upstream)			136 08		136 08
Norway Bay (Ottawa River), wharf			206 47		206 47
North Timiskaming, wharf		13,042 43			13,042 43
Notre Dame de la Salette, wharf			117 68		117 68
Notre Dame des Sept Douleurs (*See* Ile Verte).					
Notre Dame des Quinze, wharf			261 36		261 36
Paspebiac, wharf			220 60		220 60
Perkin's Landing, wharf			292 50		292 50
Phillipsburg, wharf			1,722 59		1,722 59
Pierreville, wharf	10,909 65		176 00	15 00	11,100 65
Pointe a Brosseau	314 75				314 75
Pointe a Elie (Magdalen Islds.), breakwater		2,829 45			2,829 45
Pointe a Pizeau (Sillery), wharf			12,999 50		12,999 50
Pointe aux Esquimaux, wharf			1,675 00		1,675 00
Pointe aux Trembles (Neuville), wharf			6,012 67		6,012 67
Pointe Cavagnole, wharf			264 42		264 42
Pointe Dansereau, wharf			203 75		203 75
Pointe Madeleine, wharf			248 74	675 00	923 74
Pointe Piche (Timiskaming), wharf			595 32		595 32
Port Alfred	53,515 31				53,515 31
Port au Persil, rem. of boulders		365 13			365 13
Port Daniel, wharf			948 06		948 06
Port Lewis, wharf			73 93		73 93

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921.—*Continued*

Name of Work	Dredging	Construction and Improvements	Repairs	Staff and Maintenance	Total
HARBOURS AND RIVERS	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Quebec—Continued.					
Portneuf (Saguenay), wharf			328 26		328 26
Quebec Harbour (River St. Charles)		80,443 48	14,817 36		95,260 84
Quyon, wharf			63 62		63 62
Repentigny, wharf			123 00		123 00
Rigaud, old crib wharf			98 00		98 00
" wharf at village			39 50		39 50
Rimouski, harbour improvements		12,955 84	383 29	1,078 61	14,417 74
Riviere aux Vases (Chicoutimi), wharf		1,749 43			1,749 43
Riviere Blanche, removal of boulders		373 82			373 82
Riviere des Vases (Temiscouata), wharf			173 55		173 55
Riviere du Lievre, lock and dam		123 41		2,410 73	2,534 14
" " wharf			58 50		58 50
Riviere du Loup (en bas), wharf			3,798 12		3,798 12
" " (en haut). *See* Louiseville.					
Riviere Grande Cascapedia	1,621 08				1,621 08
Riviere Ouelle, wharf			1,193 21		1,193 21
Riviere Pentecote	100 75				100 75
Riviere St. Maurice	13,125 20				13,125 20
Roberval, wharf			1,398 66		1,398 66
Ruisseau Leblanc, wharf			582 50		582 50
St. Alphonse de Bagotville, wharf			4,909 02		4,909 02
Ste. Anne de Beaupre, wharf		28,365 28			28,365 28
Ste. Anne de Bellevue, wharf			436 07		436 07
Ste. Anne de Chicoutimi, wharf			401 15		401 15
Ste. Anne de la Pocatière, wharf			509 50		509 50
Ste, Anne de Sorel, wharf			2,527 40		2,527 40
St. Antoine de Richelieu, wharf			201 46		201 46
St. Charles de Richelieu, wharf			760 98		760 98
St. Denis de Richelieu, wharf	4,846 08		1,300 21		6,146 29
Ste. Emelie (Leclercville), wharf			40 60		40 60
Ste. Famille (Ile d'Orleans), wharf		16,999 77	25 00		17,024 77
St. Francois du Lac, wharf			135 00		135 00
St. Francois, Ile d'Orleans (north side), wharf			51 90		51 90
St. Francois, Ile d'Orleans (south side), wharf			32,997 76		32,997 76
Ste. Genevieve de Batiscan, wharf			2 40		2 40
St. Irenee les Bains, wharf			834 15		834 15
St. Jean (Ile d'Orleans), wharf			29,166 00		29,166 00
St. Johns, guide piers			1,445 87	71 89	1,517 76
St. Joseph de Sorel, ice breaker		3,067 22			3,067 22
St. Laurent (Ile d'Orleans), wharf			20,779 58	13 50	20,793 08
St. Marc, wharf		3,787 70			3,787 70
St. Michel de Bellechasse, wharf			9,151 33		9,151 33
St. Nicholas, wharf			577 05		577 05
St. Ours (Riv. Richelieu), wharf	145 50		186 43		331 93
St. Paul (Ile aux Noix), wharf			3,016 93		3,016 93
St. Pierre les Becquets, wharf			57 76		57 76
St. Roch des Aulnaies, wharf			150 00		150 00
St. Roch de Richelieu, wharf			611 82	61 80	673 62
St. Simeon, wharf			76 57		76 57
St. Sulpice, wharf			22 00		22 00
Ste. Victoire, wharf			98 49		98 49
St. Zotique, wharf			114 00		114 00
Sorel, removal of old Pontbriand wharf		902 45			902 45
Sorel, wharf		12,374 50	39 00		12,413 50
Tadoussac Harbour, wharf			259 13		259 13
Three Rivers, wharf	1,936 13		14,513 12		16,449 25
Thurso, wharf			98 77		98 77
Trois Lacs, wharf			888 15		888 15
Valleyfield, wharf			229 23		229 23
Varennes, wharf			531 35		531 35
Vaudreuil, wharf	31,155 78		242 59		31,398 37
Vercheres, wharf			138 40	207 78	346 18

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921.—*Continued*

Name of Work	Dredging	Construction and Improvements	Repairs	Staff aad Maintenance	Total
HARBOURS AND RIVERS	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Quebec—Continued					
Verdun, wharf	1,498 30		252 63		1,750 93
Ville Marie, wharf			418 72		418 72
Yamaska, lock and dam				832 90	832 90
Generally	9,706 87			37,834 83	47,541 70
Totals, Quebec	189,486 31	256,498 23	258,311 72	192,619 00	896,915 26
Ontario—					
Arnprior, wharf			57 97	22 50	80 47
Bare Poiat, breakwater (Port Arthur)		298,714 56			298,714 56
Barry's Bay, wharf			21 92		21 92
Bayfield, pier			555 09		555 09
Beaumaris, wharf			69 63		69 63
Beaverton, breakwater			883 10		883 10
Belle River, harbour works	400 00		1,699 90		2,099 90
Belleville, wharf *re* lighting system			1,594 24		1,594 24
Blind River, wharf			1,944 68		1,944 68
Bowmanville	15,044 26				15,044 26
Brockville, wharf			129 27		129 27
Broate, pier		2,011 15			2,011 15
Burk's Falls, wharf			3,331 00		3,331 00
Burlington Channel, bridge				5,838 44	5,838 44
" pier			16,684 53		16,684 53
" removal of debris		150 00			150 00
Charlton, wharf			144 30		144 30
Cobourg, piers	9,957 21		13,138 86		23,096 07
Collingwood, breakwater reconstruction		23,553 99			23,553 99
" graving dock No. 1				15,000 00	15,000 00
" graving dock No. 2				9,208 96	9,208 96
Collins Bay	51 00				51 00
Connaught station, wharf		1,345 56			1,345 56
Cumberland, wharf			180 44		180 44
Depot Harbour, wharf			19,113 28		19,113 28
Ericau, pier	3,199 52				3,199 52
Fighting Island, Detroit River	168 50				168 50
Fort William, harbour imments $246,669.50 Less 75,000.00		171,669 50			171,669 50
French River, dams			3,194 48		3,194 48
Gananoque, wharf			41 16		41 16
Goderich, docks			321 52		321 52
Grand Bend, piers			2,291 96		2,291 96
Haileybury, dockyard			278 97		278 97
" wharf			996 27		996 27
Hawkestone, wharf approach			92 30		92 30
Hilton, wharf			505 58		505 58
Holland River, wharf approach			394 00		394 00
Huntsville, wharf			3,076 65		3,076 65
Jeaanette's Creek	37,036 78				37,036 78
Kagawong, wharf		12,046 92			12,046 92
Kenora, wharf extension		2,756 01			2,756 01
Kineardine, pier	3,538 00	450 93	149 50		4,138 43
Kingston, harbour improvements	5,084 43	1,581 83			6,666 26
" maintenance and operation of combined roadway, wharf and bridges				9,261 82	9,261 82
" removal of temporary bridge		2,674 50			2,674 50
" R.M.C. dock			710 56		710 56
Kingsville, piers	16,243 11		6,703 29		22,946 40
Leamington, pier			9,192 42		9,192 42
Little Current, rebuilding wharf		23,989 98			23,989 98
L'Orignal, wharf		4,345 11			4,345 11
Lorrain (Paradis Bay), wharf			283 38		283 38

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921.—*Continued*

Name of Work	Dredging	Construction and Improvements	Repairs	Staff and Maintenance	Total
HARBOURS AND RIVERS	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ontario—Concluded.					
MacLaren's Landing, wharf		237 87			237 87
McGregor's Creek, revetment wall			384 43		384 43
Marksville, wharf			60 93		60 93
Meaford, revetment wall			504 68		504 68
Monetville	82 05				82 05
Montreal River (Latchford), dam			176 25	2,918 00	3,094 25
New Liskeard, wharf			828 23		828 23
North Bay, wharf			746 37		746 37
Oakville	10,874 97				10,874 97
" east pier			152 15		152 15
Oliphant, wharf			161 65		161 65
Owen Sound, wharf		11,717 05			11,717 05
Parry Sound, renewals of breastworks at Two and Seven Mile Narrows			1,206 54		1,206 54
Parry Sound, wharf			981 66		981 66
Pembroke, wharf			422 06		422 06
Pelee Island, piers	435 30		8,123 14		8,558 44
Penetanguishene, wharf			1,238 77		1,238 77
Petawawa, wharf			22 78		22 78
Pike Creek, harbour walls			1,199 70		1,199 70
Point Edward	2,547 60				2,547 60
Port Arthur, dry dock				37,741 50	37,741 50
" (Bare Point) harbour improvements	42,873 65	3,294 11			46,167 76
Port Burwell, pier	38,803 44		7,543 42		46,346 86
Port Colborne, breakwaters			13,142 86		13,142 86
Port Dover, piers			19,786 83		19,786 83
Port Elgin, wharf			8 40		8 40
Port Hope, piers	6,665 33		8 10		6,673 43
Portland, wharf			202 77		202 77
Port Rowan, pier			1,499 31		1,499 31
Port Stanley, harbour improvements	26,759 47	1,975 98	18,010 30		46,745 75
Presqu'Isle Harbour (Grey county)	100 00				100 00
Providence Bay, wharf			103 30		103 30
Puce, harbour works			799 58		799 58
Richard's Landing, wharf			242 44		242 44
Rondeau Harbour, protection work, etc.		4,611 51	11,271 85		15,883 36
Rosseau, wharf			976 46		976 46
Running Creek	2,500 00				2,500 00
St. Williams, wharf			38 53		38 53
Sault Ste. Marie, harbour improvements	3,183 43		6,311 78		9,495 21
Sheguindah, wharf			273 95		273 95
Silver Centre, wharf			783 74		783 74
Southampton, breakwater			5,010 12		5,010 12
Sturgeon Falls, revetment wall		1,568 80			1,568 80
Sturgeon Point	140 00				140 00
Sydenham River	2,433 23				2,433 23
Thessalon, wharf reconstruction		97 20			97 20
Tobermory, glance booms			184 26		184 26
Toronto, harbour improvements—					
Canadian-Stewart contract		93,790 32			93,790 32
Roger Miller contract		1,503,477 71			1,503,477 71
Eastern channel, east pier		12,597 47			12,597 47
" west pier		3,226 57			3,226 57
Western channel, south pier			1,260 06		1,260 06
Fisherman's Island (new building)		77 55			77 55
Queen's wharf				50 00	50 00
Toronto Island, breakwater protection		37,284 31			37,284 31
Trent and Newcastle district works				52 50	52 50
Wellington	391 62				391 62
Wendover, wharf			92 00		92 00
Wheatley, pier			2,099 80		2,099 80
Whitby	4,689 40				4,689 40
Windsor, dock			924 63	1,770 00	2,694 63
Generally	9,706 87			17,495 40	27,202 27
Totals, Ontario	242,909 17	2,219,216 49	194,564 98	99,359 12	2,756,078 86

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921.—*Continued*

Name of Work	Dredging	Construction and Improvements	Repairs	Staff and Maintenance	Total
HARBOURS AND RIVERS	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Manitoba—					
Assiniboine River (High Bluff), bank protection		316 25			316 25
Big George Island	12,572 70				12,572 70
Big Islaad (Hecla), wharf		3,042 16			3,042 16
Dauphin River, wharf		7,581 79			7,581 79
Delta, protection works		3,543 67			3,543 67
Gimli, wharf			3,000 02		3,000 02
Killarney, dam, etc			1,143 59		1,143 59
Le Pas, wharf	14,110 19	9,406 18			23,516 37
Mossy River, channel	12,492 10				12,492 10
Red River, channel protection			7,537 45		7,537 45
" mouth	7,981 16				7,981 16
St. Andrews Rapids, lock and dam	2,189 91			22,787 64	24,977 55
Selkirk, middle ground	8,603 07				8,603 07
" slough	2,221 64				2,221 64
" wharf and slip			2,910 44	4,252 57	7,163 01
Victoria Beach, breakwater			500 56		500 56
Wanipigow River, removal of ledge		226 48			226 48
Winnipeg	8,378 75				8,378 75
" Beach	4,157 64				4,157 64
Generally				7,033 25	7,033 25
Totals, Manitoba	72,707 16	24,116 53	15,092 06	34,073 46	145,989 21
Saskatchewan and Alberta—					
Lesser Slave River, removal of obstructions		978 47			978 47
Generally				442 73	442 73
Totals, Saskatchewan and Alberta		978 47		442 73	1,421 20
British Columbia—					
Ainsworth, wharf			161 34		161 34
Albion, wharf			344 31		344 31
Alice Arm (Silver City), landing float		401 85			401 85
" road		141 92			141 92
Argenta, wharf			433 66		433 66
Arrow Park, wharf			623 08		623 08
Bamfield, wharf, etc			2,046 31		2,046 31
Barnston Island, wharf			321 00		321 00
Beaton, wharf			708 42		708 42
Bold Point, float			158 37		158 37
Boswell, floating wharf		75 65			75 65
Brownsville (Fraser River), wharf			603 35		603 35
Burton, wharf		717 09			717 09
Cadboro Bay, dolphin			294 50		294 50
Campbell River, wharf			15,838 30		15,838 30
Capilano, training dams			325 70		325 70
Carroll's Landing, wharf		142 04			142 04
Chemainus, Victoria Lumber Co	4,276 90				4,276 90
" boat landing			667 28		667 28
Chilliwack, Lower Landing (Shed)			531 28		531 28
Church House, wharf		2,398 31			2,398 31
Clayoquot, wharf			2,690 68		2,690 68
Coal Harbour, wharf			30 00		30 00
Columbia River, Two Beacon Bar	4,667 54				4,667 54
" Cottonwood dam		178 61			178 61
" dam between Arrow Lakes		823 16			823 16
" Snagging above Arrow Head		93 65			93 65
" below Burton, matrassing			6,951 42		6,951 42
Cottonwood point	11,115 87				11,115 87
Courtenay River, bank protection		896 99			896 99
Cowan's Cove, wharf			372 50		372 50
Cracroft, wharf		448 36			448 36

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921.—*Continued*

Name of Work	Dredging	Construction and Improvements	Repairs	Staff and Maintenance	Total
HARBOURS AND RIVERS	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
British Columbia—Continued					
Crescent Bay, wharf			210 10		210 10
Crofton, wharf			4,112 50		4,112 50
Deer Park, wharf			635 06		635 06
Deep Cove, wharf			1,255 12		1,255 12
Degnan's Bay, float			1,101 39		1,101 39
Denman's Island, float		975 97			975 97
Dewdney, wharf			315 63		315 63
Digby Island, wharf			1,176 75		1,176 75
East Arrow Park, wharf			355 02		355 02
Edgewood, wharf			1,924 22		1,924 22
Egmont, float			112 93		112 93
Esquimalt, new dry dock		13,536 89			13,536 89
" old dry dock				22,248 00	22,248 00
Farmer's Landing, wharf			15 00		15 00
Fernwood, wharf			1,026 20		1,026 20
Fraser's, wharf			613 63		613 63
Fraser River improvements—					
Ballantyne pier	6,842 12				6,842 12
Bucklin Lumber Co	896 54				896 54
Celtic Cannery	3,127 98				3,127 98
Chilliwack, removal of snags above		2,536 78			2,536 78
Ladner channel	8,365 04				8,365 04
Nicomen, dams		175 73			175 73
" Island, improvements		8,796 80			8,796 80
North Arm	97,379 26				97,379 26
Sandheads	49,720 72				49,720 72
Snagboat Samson				24,870 05	24,870 05
Steveston Jetty	1,651 48				1,651 48
Woodword Slough	34,526 11				34,526 11
Gibson Landing, wharf			2,399 90		2,399 90
Gibson Shoal, passage	22,231 40				22,231 40
Gower Point, float		1,755 10			1,755 10
Grace Harbour, float			196 00		196 00
Graham, wharf		11,454 88			11,454 88
Grantham's Landing, wharf			1,346 90		1,346 90
Grey's Creek, wharf			320 62		320 62
Halcyon, wharf		1,297 70	264 22		1,561 92
Hardy Bay, wharf			1,406 08		1,406 08
Harrop, wharf			749 05		749 05
Hatzic, wharf			594 37		594 37
Hollyburn, wharf			6,435 63		6,435 63
Hope Bay (Pender Island), wharf			13 50		13 50
Hopkin's Landing, wharf			1,499 95		1,499 95
Howe Sound, Shoal Passage	148 20				148 20
Hurst wharf, landing float		798 48			798 48
Irvings Landing, float			598 67		598 67
Jackson Bay, float		1,365 98			1,365 98
Jericho Beach, Air harbour		34,790 49			34,790 49
Johnson's Landing, wharf			120 05		120 05
Kincolith, wharf			293 69		293 69
Kokanee, wharf			469 16		469 16
Kuskanook, wharf		4,154 27			4,154 27
Ladysmith, wharf		151 13			151 13
Lloyd Point, float			129 75		129 75
Long Bay, float (*See* Wolfsohns Bay)					
Long Beach, wharf			384 00		384 00
Lyall Harbour, Saturna Island, wharf		4,859 41			4,859 41
Lund, wharf			473 75		473 75
Magar's Landing, wharf			15 00		15 00
Manson's Landing, wharf		83 64	201 95		285 59
Matsqui, wharf			472 60		472 60
Mayne Island, wharf			4,471 62		4,471 62
McDonald's Landing, wharf			480 01		480 01
Mill Bay, wharf			1,481 29		1,481 29
Millers Landing, wharf			246 20		246 20

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921.—*Continued*

Name of Work	Dredging	Construction and Improvements	Repairs	Staff and Maintenance	Total
HARBOURS AND RIVERS	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
British Columbia—Continued					
Mirror Lake, wharf			742 85		742 85
Moresby Island, wharf			4,635 94		4,635 94
Naas River	7,220 31	9,380 66			16,600 97
Nahun, wharf			119 90		119 90
Nanaimo	8,561 68				8,561 68
Naramata, wharf		2,449 83			2,449 83
Needles, wharf			1,269 90		1,269 90
New Westminster, wharf			487 75		487 75
Nootka Island, wharf			3,901 36		3,901 36
Okanagan Centre, wharf			657 71		657 71
" River, protection works			4,299 06		4,299 06
Peachland, wharf			373 89		373 89
Pender Harbour, float		1,197 16	201 24		1,398 40
Port Alberni, new floats, etc		1,994 20			1,994 20
Port Clements, wharf			1,031 57		1,031 57
Port Essington, landing float		233 33			233 33
Port Haney, wharf			379 50		379 50
Port Moody, wharf			1,677 77		1,677 77
Powell River, addition to wharf	53,088 44	10,199 40			63,287 84
Prince Rupert, floating dock				76,970 88	76,970 88
" quar. station wharf		588 68	2,517 41		3,106 09
Princess Creek, floating wharf		6,389 18			6,389 18
Proctor, floating wharf		6,999 60			6,999 60
Queens Bay, wharf			121 91		121 91
Queen Charlotte City, wharf			1,079 95		1,079 95
Refuge Bay, wharf			2,244 57		2,244 57
Renata, wharf			482 49		482 49
Robert's Bay, float			86 33		86 33
Robert's Creek, wharf			1,128 45		1,128 45
Roy, float			53 15		53 15
Royston, wharf			4,152 68		4,152 68
Russell's wharf (Kootenay)			687 79		687 79
Saanichton, wharf			1,548 44		1,548 44
Salmon River, wharf			1,483 36		1,483 36
Sandspit Point, wharf reconstruction		102 03			102 03
Saturna Island, wharf			8 00		8 00
Savary Island, wharf			1,873 50		1,873 50
Sidney, wharf	5,123 80		696 53		5,820 33
Skeena River	11,989 37				11,989 37
Skidegate, wharf			662 18		662 18
South Gabriola Island, wharf		2,123 84			2,123 84
Spiller River, wharf			59 00		59 00
Squamish, wharf			146 46		146 46
Stag Bay, float		1,241 63			1,241 63
Stewart, wharf		30,550 07			30,550 07
Stickine River, removal of obstructions		9,440 48			9,440 48
Sturdies Bay, wharf			1,401 70		1,401 70
Syringa Creek, wharf			142 50		142 50
Thetis Island, wharf		8,507 71			8,507 71
Tofino, wharf			361 59		361 59
Tucker Bay, float			1 50		1 50
Ucluelet, wharf			3,553 35		3,553 35
Union Bay, wharf			125 00		125 00
Valdez Island, float			410 00		410 00
Van Anda, wharf			271 14		271 14
Vesuvius Bay, wharf			1,400 21		1,400 21
Victoria, harbour improvements	11,347 69		2,750 00		14,097 69
Westbank, wharf		3,300 42			3,300 42
West Demars, wharf			505 28		505 28
White Rock, wharf			254 52		254 52
William's Head, quar. sta. wharf	13,142 47		300 00		13,442 47
" quar. sta. coal wharf			5,480 40		5,480 40
Williamson's Landing, float			169 44		169 44

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921.—*Continued*

Name of Work	Dredging	Construction and Improvements	Repairs	Staff and Maintenance	Total
HARBOURS AND RIVERS—*Con.*	$ cts.	$ cts.	$ cts	$ cts.	$ cts.
Willow Point, float	.....	.....	691 78	.....	691 78
Wilson's Landing, wharf	.....	.....	459 95	.....	459 95
Wolfsohn's Bay (Long Bay) float	.....	.....	67 75	.....	67 75
Wyatt Bay, float	.....	.....	10 30	.....	10 30
Generally	6,159 15	.....	.....	14,177 09	20,336 24
Totals, British Columbia	361,582 07	187,749 10	128,186 06	138,266 02	815,783 25
GENERALLY					
General expenses of staff	.....	.....	.....	12,981 10	12,981 10
Salaries of district engineers, assistants, etc	.....	.....	.....	491,516 03	491,516 03
Test borings for sundry projected works	.....	15,008 17	.....	.....	15,008 17
Totals, harbours and rivers, generally	.....	15,008 17	.....	504,497 13	519,505 30

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921.—*Continued*

Name of Work	Construction and Improvements	Repairs	Staff and Maintenance	Total
DREDGING PLANT	$ cts.	$ cts.	$ cts.	$ cts.
Maritime Provinces	.....	65,388 44	.....	65,388 44
Ontario and Quebec	6,502 65	54,126 96	.....	60,629 61
Manitoba, Saskatchewan and Alberta	.....	6,488 22	.....	6,488 22
British Columbia	.....	15,974 18	.....	15,974 18
Totals, Dredging Plant	6,502 65	141,977 80	.....	148,480 45
ROADS AND BRIDGES				
Maritime Provinces—				
Grand Etang bridge, N.S	.....	224 13	.....	224 13
St. Leonard bridge	.....	3,284 69	.....	3,284 69
Edmundston International bridge	3,132 56	.....	.....	3,132 56
Quebec and Ontario—				
Burlington channel, new bridge	31,417 42	.....	.....	31,417 42
Bryson, bridge	.....	190 90	.....	190 90
Chapleau, bridge	.....	131 50	.....	131 50
Des Joachims, bridge	.....	1,007 03	.....	1,007 03
North Timiskaming bridge	14,098 45	.....	.....	14,098 45
Ottawa city, bridges and streets maintained by Government—				
Connaught Place and Wellington st	.....	.....	6,178 57	6,178 57
Laurier bridge	.....	1,380 79	.....	1,380 79
New Chaudiere bridge	23,853 53	.....	.....	23,853 53
Lighting all above	.....	.....	1,772 04	1,772 04
Portage du Fort, bridge	.....	3,320 59	.....	3,320 59
River St. Louis, bridge abutments	.....	190 00	.....	190 00
York bridge (Grand River)	.....	1,042 38	.....	1,042 38

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921.—*Continued*

Name of Work	Construction and Improvements	Repairs	Staff and Maintenance	Total
ROADS AND BRIDGES—*Con.*	$ cts.	$ cts.	$ cts.	$ cts.
Manitoba, Saskatchewan, Alberta and British Columbia—				
Banff, bridge	.....	1,689 91	.....	1,689 91
" new bridge	93,709 66	.....	.....	93,709 66
Edmonton, bridge	.....	106 13	.....	106 13
Oyama canal bridge	.....	352 23	.....	352 23
Prince Rupert, quar. station, bridge	.....	4,499 47	.....	4,499 47
St. Andrews, Man., road	4,627 15	.....	.....	4,627 15
Totals, roads and bridges	170,838 77	17,419 75	7,950 61	196,209 13
TELEGRAPH AND TELEPHONE LINES				
Cape Ray—Newfoundland	.....	.....	250 00	250 00
Maritime Provinces—				
Bay of Fundy lines	.....	.....	5,950 63	5,950 63
Cape Breton lines	327 50	2,751 26	48,297 14	51,375 90
Chatham-Escuminac line	.....	.....	1,936 02	1,936 02
Prince Edward Island and mainland cable	.....	.....	7,186 66	7,186 66
Prince Edward Island, contribution of half cost of reconstruction of telegraph lines jointly owned by the Anglo-American Co. and the Dom. Government	4,745 63	.....	.....	4,745 63
Quebec Mainland—				
Dorchester County lines	.....	.....	9 37	9 37
North Shore, east of Bersimis	.....	.....	37,970 29	37,970 29
" west of Bersimis	.....	.....	21,815 58	21,815 58
Quebec County lines	.....	.....	5,613 55	5,613 55
Timiskaming lines	.....	.....	4,489 07	4,489 07
Quebec Islands—				
Anticosti system	.....	.....	11,010 94	11,010 94
Cable ship *Tyrian*	.....	.....	106,843 84	106,843 84
Grosse Isle, Isle aux Coudres and Island of Orleans system	.....	.....	9,629 55	9,629 55
Magdalen Islands system	.....	.....	9,018 42	9,018 42
Maritime Provinces and Gulf generally	.....	.....	5,023 70	5,023 70
" " " Purchase of submarine cable to replenish stores	5,120 89	.....	.....	5,120 89
Ontario—				
Bath-Amherst Island system	637 00	.....	.....	637 00
Pelee Island system	.....	.....	4,771 10	4,771 10
Saskatchewan and Alberta Lines—				
Saskatchewan lines	.....	6,548 60	72,629 03	79,177 63
Alberta lines	.....	4,680 40	111,310 86	115,991 26
British Columbia and Yukon—				
Ashcroft-Dawson system	.....	5,885 34	289,789 97	295,675 31
British Columbia Mainland system	5,787 50	21,693 55	98,156 75	125,637 80
British Columbia-Vancouver Island system	.....	7,190 37	152,776 81	159,967 18
" " " Purchase of submarine cable to replenish stores	12,379 11	.....	.....	12,379 11
Telegraph service generally	.....	.....	1,015 62	1,015 62
Totals, Telegraph and Telephone Lines	28,997 63	48,749 52	1,005,494 90	1,083,242 05

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1921.—*Concluded.*

Name of Work	Construction and Improvements	Repairs	Staff and Maintenance	Total
MISCELLANEOUS	$ cts.	$ cts.	$ cts.	$ cts.
Surveys—				
Maritime Provinces	.....	.....	25,001 20	.....
Quebec	.....	.....	28,913 83	.....
Ontario	.....	.....	27,753 64	
Manitoba	.....	.....	4,261 94	
Saskatchewan and Alberta	.....	.....	1,776 47	
British Columbia	.....	.....	15,994 95	
Generally	.....	.....	236 30	103,938 33
Upper Ottawa Storage dams—				
Land damages	6,715 24	.....	.....	
Quinze dam	19,183 17	.....	.....	
Timiskaming dam	14,389 78	.....	.....	
Generally	84,175 59	.....	.....	124,463 78
Accounts Branch—				
Salaries and travelling expenses of agents, clerks, etc., of outside service	.....	.....	20,845 23	20,845 23
Compassionate allowance to the mother of the late E. P. Gingras who was drowned at Alice Arm, B.C., on 13th April, 1920, while on duty	.....	.....	2,000 00	2,000 00
Legal Services re cases before International Joint Commission	.....	.....	10 00	10 00
Gratuities to widows or other representatives of 53 deceased employees under Civil Service Amendment Act (Sec. 30)	.....	.....	10,360 14	10,360 14
Inspection Boats, new motors for Inspection boat in Prince Edward Island	2,100 00	.....	.....	2,100 00
Monument to the memory of the late Thos D'Arcy McGee	3,600 00	.....	.....	3,600 00
Memorial to the late Lt.-Col. H. Baker, M.P.	500 00	.....	.....	500 00
Operation and maintenance of inspection boats	.....	.....	21,108 29	21,108 29
River gaugings and metering	.....	.....	23,994 17	23,994 17
Collection of Public Works Revenues	.....	.....	3,487 91	3,487 91
Cost of living bonus (Vote No. 363)	.....	.....	571,444 77	571 444 77
Increase in Salaries due to the application of the reclassification of the Civil Service (Vote No. 558)	.....	.....	143,675 84	143,675 84
Totals, Miscellaneous	130,663 78	.....	900,864 68	1,031,528 46

PART II

Expenditures by the Department of Public Works of Canada from Demobilization

Name of Building	Construction and Improvements	Repairs and Furniture	Rents	Heating	Lighting	Water	Power	Staff and Maintenance	Total
Nova Scotia	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Dartmouth naval station, aviation	23,554 68								23,554 68
Glace Bay, M. and D., dental clinic			6 67						6 67
" S.C.R., C.M.B.A. Bldg			280 00						280 00
Halifax, Bellevue, military hospital	15,100 29								15,100 29
" " S.C.R., Supt's residence		3,803 85		661 65					4,465 50
" Camp Hill military hospital	3,798 50								3,798 50
" discharge depot, pier No. 2	35,686 33								35,686 33
" military garage	769 07								769 07
" M.S.A. Registrar			90 00						90 00
" Rockhead, military hospital	135 00								135 00
" Roy Bldg., Soldiers' Settlement Board		45 25	2,039 83						2,085 08
" Soldiers' Settlement Board, Barrington st		72 00							72 00
" S.C.R., Halifax Relief Com. Bldg., vocation branch		269 53	1,400 00						1,669 53
New Glasgow, M. and D., dental surgery			40 00						40 00
Stellarton, M. and D., 86th Field Battery		480 00	35 00						515 00
Sydney, S.C.R. McLeod Block, medical branch D.			600 00						600 00
" Ross Block			180 00						180 00
Prince Edward Island									
Charlottetown, Riley bldg., Soldiers' Settlement Board		245 59	900 00						1,145 59
" S.C.R., vocation branch, etc., Grafton st			779 00						779 00
North Wiltshire, Dalton sanatorium	9,815 22								9,815 22
Summerside, S.C.R., vocation branch			165 00						165 00
Prince Edward Island, generally		246 59							246 59
New Brunswick.									
Edmundston, M. and D., Militia Units		119 46							119 46
Fredericton M. & D., Dunbar House			700 00						700 00
" military hospital	3,408 26								3,408 26
Marysville, M. and D. Depot, Main street			20 00						20 00
Moncton, Armoury 74th Btn., etc		675 00	960 00						1,635 00
Field Battery, C.F.A		675 00	450 00						1,125 00

EXPENDITURES by the Department of Public Works of Canada from Demobilization—*Continued*

Name of Building	Construction and Improvements	Repairs and Furniture	Rents	Heating	Lighting	Water	Power	Staff and Maintenance	Total
New Brunswick—Concluded	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Moncton, Higgins, B., M. and D., dental clinic			160 00						160 00
" S.C.R., vocation and medical offices			216 60						216 60
Riverglade sanatorium	4,256 68								4,256 68
St. John (County hospital) military hospital	8,697 28								8,697 28
" detention building and immigration shed	2,530 25								2,530 25
" drill hall	855 21								855 21
" M. and D., Headquarters No. 7			750 00						750 00
" M. and D., McAvity Bldg. storage			35 00						35 00
" Partridge Island, stores, small arms, ammunition, etc			87 50						87 50
" S.C.R. Bank of Montreal, dental clinic			1,058 33						1,058 33
" " 160 Prince William street			145 80						145 80
" " 76 Prince William street			825 00						825 00
" " garage 66 Charlotte street			385 00						385 00
" " Stockton bldg			174 97						174 97
" " sundry offices		248 11							248 11
St. John West immigration building		566 05							566 05
St. Stephen M. and D., Windsor hotel, dental clinic			50 00						50 00
New Brunswick, sundry buildings		74 55							74 55
Quebec									
Fraserville (Riv. du Loup) armoury No. 2			1,080 00						1,080 00
" S.C.R., Cimon Block			42 00						42 00
Hull, 70th Regiment, 127-9 Main street			112 50						112 50
Lachine, S.C.R. 180 Notre Dame street			245 00						245 00
Lachute, 11th Regiment Argenteuil Rangers, Main street		35 00	120 00						155 00
Montreal, barracks, old High School, Cor. Peel and Metcalfe		37,500 00	2,020 33						39,520 33
" M. and D., "Grey Head" hospital and garage		18 27	5,220 00						5,238 27
" " Mance street, 1st and 8th machine gun brigade		56 50	2,233 34			16 18			2,306 02
" " Read bldg., Ordnance and barracks stores		45 81	10,000 00						10,045 81
" " Westmount Rifles, 1215 Greene avenue			1,125 00						1,125 00

" " garage, 142-144 Bleury st.			2,750 00						2,750 00
" S.C.R., Andrews House, Belmont Park			1,704 00						1,704 00
" " Coronation building		73 66	982 58	4 37	8 66				1,068 67
" " Drummond building		54 00	18,996 68		1 86	108 00			19,160 54
" " garage, 63 Prince street			3,999 96						3,999 96
" " Lyman building store room			3,000 00						3,000 00
" " Nurses' Home, 786 Dorchester st. w.			250 00						250 00
" " " 451 Sherbrooke st. w.			666 64						666 64
" " Prince of Wales hospital, old Loyola College, 68 Drummond street		27 65	9,562 50						9,590 15
" " Shaughnessy building, vocation office, etc.		1,688 44							1,688 44
" " training branch			16,288 50						16,288 50
" " vocational school, 463 Ontario street			1,250 00						1,250 00
" " 186 Windsor street		97 00	2,491 60		6 83				2,595 43
Quebec Cove Fields, barracks	69 95								69 95
" Lindsay building, Soldiers' Settlement Board		28 00	954 00						982 00
" M. and D., Supt. Dom. Arsenal			475 00						475 00
" S.C.R., Merger building			2,435 74						2,435 74
" sundry buildings			62 75						62 75
Ste. Anne de Bellevue military hospital	1,219 03								1,219 03
Sherbrooke, M. and D., York apts., dental clinic			37 50						37 50
" Sun Life building, S.S.B.		714 30	1,340 00						2,054 30
Ottawa Buildings									
Air Board, McDougal building, 529 Sussex street		2,603 22			25 80				2,629 02
Board of Pension Comm., Federal building		274 75	6,094 22	6 00	367 60		195 00		6,937 57
" 52 54 Rideau street					59 12				59 12
" Transportation bldg.		4,634 75	45,600 00	2 00	90 82				50,327 57
Historic Records Comm., cor. Sparks and Kent streets		750 00							750 00
Income tax office		6,403 97							6,403 97
La Banque Nationale building Internment branch			306 30						306 30
M. and D. Aylmer Annex				4 41	22 78				27 19
" Canadian building, S.A. and A. P. branch		662 75							662 75
" Daly building, Records Office		15,644 42							15,644 42
" Dental Corps, 107 Bank street			92 00						92 00
" Eclipse building, Contracts Branch			416 67		23 91	24 69	43 33		508 60
" Elgin Cottage, 61 Albert street		220 45	2,171 66		6 45	22 75			2,421 31
" Garage, cor Duke and Queen streets			4,496 96			25 44			4,522 40
" Inspector of Artillery stores, 306-310 Sparks street			1,275 00						1,275 00

EXPENDITURES by the Department of Public Works of Canada from Demobilization—*Continued*

Name of Building	Construction and Improvements	Repairs and Furniture	Rents	Heating	Lighting	Water	Power	Staff and Maintenance	Total
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ottawa—Concluded									
M. and D.O.A.A.C. building, 5th P.L.D.G., and Artillery brigade			7,157 21			59 46			7,216 67
" Popham building, dental service, etc.			3,485 43		65 06				3,550 49
" Woods building Central registry office		3,762 50							3,762 50
Military stores	148 29	95 00							243 29
S.C.R. Demobilization staff, 130-132 Queen st.		5 40	3,990 20		214 26	49 21	16 66		4,275 73
S.C.R. Fitting Depot, 121-123 Rideau street			2,866 66						2,866 66
" Garage, 352 Albert street			732 00						732 00
" Headquarters, 22 Vittoria street		4,319 63		20 73					4,340 36
" Plaza building, Repatriation Comm.			3,650 00						3,650 00
" vocation office, 194 Chapel street		10 35							10 35
Soldiers' Settlement Board, generally		1,726 25							1,726 25
" Union Bank building		5,298 60							5,298 60
Sir Sanford Fleming Home			4,186 08			54 65			4,240 73
War trophies, Exhibition building storage	650 00								650 00
" building, Sussex street	18,138 59								18,138 59
Generally	65 00	762 83	12 05		32 97	1 54			874 39
Ontario (excluding Ottawa)									
Barrie, M. & D. dental clinic, 76 Dunlop street			40 00						40 00
Brantford, S.C.R., cor. King and Dalhousie Sts.			1,181 40						1,181 40
" " Schultz bldg., workshop			851 78						851 78
BrightonTown Hall, "B" Co., Northumberland Regt			5 00						5 00
Burlington, Brant House, military hospital	276 92								276 92
Chatham, "E" Battery, 2nd Machine Gun Br'de			240 00						240 00
Fort William, Soldiers Settlement Board		318 21	252 00						570 21
Freeport (near Kitchener), sanatorium	503 80								503 80
Goderich, Colborne Hotel, Hamilton st., M. & D.			90 00						90 00
Guelph, reformatory farm,			320 55						320 55
" " " military hospital		141 45							141 45
" S.C.R., Herald bldg.			1,000 00						1,000 00
Haileybury, S.C.R., Dist. vocation offices			288 00						288 00
Hamilton, M. & D., C.A.D.C., 127 King St. E.		150 00	300 00						450 00
" Royal Market bldg., Board of Pension Commissioners			250 00						250 00
" S.C.R. Garage, 135 King St. W.			800 00						800 00
" " 92 McNab street			500 00						500 00
" S.C.R. vocational branch, 25 Emerald street			900 00						900 00

" S.C.R. vocational branch, Clyde Block			384 00						384 00
Ingersoll, M. & D., Bank of Montreal bldg., Signal Corps			45 00						45 00
Kingston, M. & D., Dist. paymaster, M.D. No.2		59 84	4,050 00						4,109 84
" " military station hospital			50 00						50 00
" " Milk Trust bldg			1,100 00						1,100 00
" " Ordnance depot (Cement B.)			2,291 80						2,291 80
" " Red Cross drug store			126 50						126 50
" Mowat sanatorium	20,340 22								20,340 22
" S.C.R. and Dist. depot, Grant hall			999 97						999 97
" " garage, cor. Brock and Montreal streets			650 00						650 00
" " Golden Lion block			1,475 00						1,475 00
" " Tractor school, 62 King street W.			233 33						233 33
" " vocational branch, Merchants Bank bldg			350 00						350 00
" Sydenham, "Ongwanada" isolation hospital	7,219 18								7,219 18
London, S.C.R. Board of Pension Comm., Bank of Toronto bldg		19 25	200 00						219 25
" " Board of Pension Comm., 184 190 Horton street			325 00						325 00
" " Demobilization branch			225 00						225 00
" " Royal Bank Bldg		872 70	6,497 97						7,370 67
" " Shops, 562 Talbot street			900 00						900 00
" " Vocational (auto school)			1,260 00						1,260 00
" " " branch, technical school			2,916 66						2,916 66
" Westminster military hospital	273,062 61								273,062 61
Newmarket, S.C.R., Nurses home, staff		45 00	750 00						795 00
Orillia, S.C.R. vocation office			359 34						359 34
Oshawa, S.C.R., Simcoe street			145 00						145 00
Owen Sound, M. and D., 31st Grey Regiment			471 60						471 60
" S.C.R., Kilburn block			339 39						339 39
Peterboro, S.C.R., Parrie bldg., vocational br.			1,209 99						1,209 99
St. Catharines, S.C.R., Standard bldg., vocational branch			800 00						800 00
" " 46 Queen street, vocational branch			75 00						75 00
St. Marys, M. and D., "D" Battery, 2nd Can. Machine Gun Brigade			357 50						357 50
Sarnia, M. and D., 2nd Machine Gun Brigade			459 67						459 67
Sault Ste. Marie, M. & D., 51st Soo Rifles, 849 Queen street W.			480 00						480 00
" S.C.R., Barnes bldg., vocational branch			320 00						320 00
Toronto, Board of Pension Comm., Crown Life bldg			820 00						820 00
" Board of Pension Comm., Crown Tailor bldg., 533 College street		38 40	670 00						708 40

EXPENDITURES by the Department of Public Works of Canada from Demobilization—*Continued*

Name of Building	Construction and Improvements	Repairs and Furniture	Rents	Heating	Lighting	Water	Power	Staff and Maintenance	Total
Ontario (excluding Ottawa)—Con.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
" Casualty clearing station	218 48								218 48
" Central military hospital (old Bishop Strachan school)	3,671 10		4,561 70						8,232 80
" Military Dist. No. 2, Headquarters, 149 College street		73 79	3,110 00						3,183 79
" Military District No. 2 Headquarters, Cawthra House, 241 College street			2,000 00						2,000 00
" M. and D., Demobilization office, 287 Queen street			1,835 00						1,835 00
" " Paymaster, Military Dist. No. 2, World bldg., 46 Richmond street			2,833 35						2,833 35
" " Spadina military hospital, old Knox College			5,308 06						5,308 06
" Nurses' residence, 699 Spadina Ave.			631 46						631 46
" Orthopaedic hospital	4,275 75		545 00						4,820 75
" R.C.M.P. quarters		133 88							133 88
" Ross Farm, Moore Park			24 00						24 00
" St. Andrews College mil. hospital	100 10								100 10
" S.C.R., Allen Mfg. Co. bldg.			8,981 01						8,981 01
" " dental clinic, Orthopaedic Br., 184 Spadina Ave.			2,316 00						2,316 00
" " Information and service Br.			135 00						135 00
" " mechanical transport, Dupont street garage			5,400 00						5,400 00
" " medical office, 69-71 King st. W.			3,000 00						3,000 00
" " Nurses' Home, 141 Isabella St.			1,500 00						1,500 00
" " vocational br., 1 College St.			204 04						204 04
" " " Broadway			850 00						850 00
" " " 475 Spadina Ave			350 00						350 00
" " " 592 King St.			13,910 00						13,910 00
" " " Royal Alexandra lot			72 00						72 00
" Spadina military convalescent hospital	3,181 16								3,181 16
" Soldiers' Settlement Board, 32-34 Adelaide street		862 71							862 71
" North, orthopaedic hospital (Davisville)			7,853 82						7,853 82

Trenton, armoury, Hastings and Prince Edward Regiment			150 00						150 00
Windsor, S.C.R., 76 Pitt street East		3 79	370 00		33 99	12 24			420 02
" " vocational branch, 16 London street East			1,500 00			16 50			1,516 50
Ontario generally, sundry buildings		2,383 52	253 01						2,636 53
Manitoba									
Brandon, Soldiers' Settlement Board		19 50							19 50
Transcona, S.C.P., G.W.V.A. bldg., Information service			63 00						63 00
Winnipeg, Armoury and drill hall, C.A.S.C.			520 00						520 00
" "Deer Lodge" military hospital			587 50						587 50
" M. and D. armouries 34th Fort Garry Horse			3,325 00						3,325 00
" " Crescent creamer bldg., barracks stores			135 00						135 00
" " Aldous block, Ordnance stores			552 00						552 00
" " Ellis block, Ordnance stores			200 00						200 00
" S.C.R., Bon Accord bldg., Western medical stores			1,210 00						1,210 00
" " Board of Trade bldg., Information service			130 00						130 00
" " Keewaydon bldg.			3,968 20						3,968 20
" " Manitoba College, cor. Ellen and Vaughan			2,750 00						2,750 00
" " Mechanical Transport garage, 297 Burwell street			1,778 00						1,778 00
" " Notre Dame Investment bldg.			13,935 30						13,935 30
" " Union Overall bldg.			1,050 00						1,050 00
" Soldiers' Settlement Board (Enderton Bldg.)		1,662 58	4,560 00						6,222 58
" "Tuxedo" military hospital	53,536 38								53,536 38
Manitoba generally, sundry buildings		13 62		245 00					258 62
Saskatchewan									
Kindersley, Headqrs. 18th Can. Light Horse			550 00						550 00
Moosejaw, military hospital	13,843 08								13,843 08
" " Ross school			1,585 64						1,585 64
" Red Cross hut			90 00						90 00
Prince Albert, Bank of Ottawa bldg., Soldiers' Settlement Board		1,752 76	350 00						2,102 76
" Empress theater bldg., Soldiers' Settlement Board		1,711 26	233 33						1,944 59
" Harthill bldg., Soldiers' Settlement Board		655 70	3,710 00						4,365 70

EXPENDITURES by the Department of Public Works of Canada from Demobilization—*Continued*

Name of Building	Construction and Improvements	Repairs and Furniture	Rents	Heating	Lighting	Water	Power	Staff and Maintenance	Total
Saskatchewan—Concluded	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Regina, M. and D., barracks stores, M.D. No. 12			525 00						525 00
" " demobilization branch (Sherwood building)			9,679 00						9,679 00
" " dental office C.A.D.C. (Kerr block)			330 00						330 00
" " garage, 14th avenue			1,195 00						1,195 00
" " military district No. 12			4,200 00						4,200 00
" " " " stables			150 00						150 00
" " Ordnance corps, ammunition hut			480 00						480 00
" " Ordnance corps, Exhibition buildings			142 85						142 85
" " Ordnance stores, 8th avenue			3,529 92						3,529 92
" " Ordnance stores			3,271 00						3,271 00
" " Soldiers' Settlement Board (McCallum Hill block)			93 35						93 35
" " Soldiers' Settlement Board (Westman chambers)		1,331 25	7,165 00						8,496 25
" " stable for A.S.C., 1952 Hamilton street			81 30						81 30
" S.C.R., G.W.V.A. building		109 10	5,725 00		2 03				5,836 13
Saskatoon, M. and D., armoury (old Knox church)			1,200 00						1,200 00
" " Headquarters 12th C.M.G. brigade			1,050 00						1,050 00
" " No. 3 Co., C.M.G. brigade			1,050 00						1,050 00
" Soldiers' Settlement Board (Canada Life building)			856 00						856 00
" Soldiers' Settlement Board (Connaught block)		3,372 32	5,543 55						8,915 87
Swift Current, Burrow building, dental offices			100 00						100 00
" M. and D. armoury			180 00						180 00
Saskatchewan, sundry buildings generally		202 50							202 50
Alberta									
Banff, M. and D., 4th Field Troop, C.E., 307 Banff avenue		75 00							75 00

Calgary, immigration agent accommodation			280 00					280 00
" M. and D., garage, 330 5th ave. W.			1,800 00					1,800 00
" " ordnance depot			400 00					400 00
" North West Commercial Travellers' Association			250 00					250 00
" S.C.R. and Pension Board (Herald building)			262 50					262 50
" " and S.S. Board (Lancaster building)			11,724 95					11,724 95
" " Beveridge building			30 00		1 80			31 80
" " Canadian Fairbanks building, military hospital			10,800 00					10,800 00
" " garage, 230-232 6th ave. west			462 50					462 50
" " Nurses' Home, 1417 7th avenue N.W.			480 00					480 00
" " Nursing Sisters' Home, 712 12th avenue			270 00					270 00
" " Southam chambers, S.S. Board etc.		5,474 62	7,200 00	28 67	507 85			13,211 14
" " store room, 516 6th avenue W.			600 00					600 00
" " Sunnyside hospital			3,000 00					3,000 00
" " workshops, etc., 606-608 2nd street E.			1,660 56					1,660 56
Edmonton, M. and D., Tegler building, dental clinic			93 35					93 35
" S.C.R., Alberta College, military hospital			4,583 30					4,583 30
" " St. Regis building, orthopaedic shop			475 00			24 00		499 00
" " White block, Vocation Branch			945 00					945 00
" " 10858 Whyte ave., Vocation Branch		6 65	257 50					264 15
" " and S.S.B., (McLeod building)			3,160 00					3,160 00
" Soldiers' Settlement Board (Williamson block), Jasper ave.		230 99	16,020 00					16,250 99
" Soldiers' Settlement Board, generally		1,912 75						1,912 75
Edmonton South (Strathcona), military hospital			16,262 00					16,262 00
Frank, sanitorium			1,220 45					1,220 45
Lethbridge Headquarters, artillery and infantry units, 6th avenue and 6th street			1,200 00					1,200 00
Medicine Hat, M. and D., (Quebec Bank building) temporary quarters for Alberta Regiment		300 00						300 00
Wetaskiwin, S.C.R., Nurses' Home			400 00					400 00
Alberta, sundry buildings generally		59 85						59 85

EXPENDITURES by the Department of Public Works of Canada from Demobilization—*Continued*

Name of Building	Construction and Improvements	Repairs and Furniture	Rents	Heating	Lighting	Water	Power	Staff and Maintenance.	Total
British Columbia	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ ct.
Balfour, S.C.R., Balfour ranch			280 00						280 00
" " Kootenay Lake hotel			1,800 00						1,800 00
Courtenay, Townsite G., Battery 11th, M. G. brigade			225 00						225 00
Duncan agricultural hall, Battery 11th, M. G. brigade			37 50						37 50
Esquimalt, married members P.P.C.L.I., 484 Gore street			70 55						70 55
" married members P.P.C.L.I., 509 Gore street			66 30						66 30
" married members P.P.C.L.I., 515 Gore street			74 00						74 00
" military hospital	10 80								10 80
" temporary barracks	27 00								27 00
Fernie, S.C.R., Napanee building			29 67						29 67
Kamloops, S.C.R., Stevens & Allan block			60 00						60 00
Nanaimo, Agricultural Society building, "H" battery, 11th machine gun brigade			93 57						93 57
" Roller rink, "H" battery, 11th machine gun brigade			100 00						100 00
Nelson Soldiers' Settlement Board			114 00						114 00
New Westminster, S.C.R. Nurses' Home			480 00						480 00
Penticton, S.C.R., Shatford block			25 00						25 00
Revelstoke, S.C.R., McRae block			55 50						55 50
Vancouver, Fairmont military hospital		290 00							290 00
" Headquarters armoury, 72nd Regt.			1,375 00						1,375 00
" M. and D., C.A.S.C., 1117 Smeaton street			250 00						250 00
" " " stables			2,500 00						2,500 00
" " storage, rear of ordnance stores			220 00						220 00
" S.C.R., Board of Trade building			10,870 00						10,870 00
" " class room and Vocational Branch, 1155 Pender street			4,500 00						4,500 00
" " Farmer building			1,545 84						1,545 84
" " Functional training, 155 Cordova street W.			404 00						404 00

" " Functional training, Arlington building, 316 Cordova street W.			283 34						283 34
" " information service			3,600 00						3,600 00
" " rear of 1155 Pender street			300 00						300 00
" " Rigg & Selman building, 317-321 Pender street, 1155 Pender street			750 00						750 00
" " Rogers building, S.S. Board		1,391 33	8,176 65		213 36				9,781 34
" " Thomas block, Vocational Branch			1,900 00						1,900 00
Vernon, S.C.R., McGaw building		1,093 71	1,200 00	874 00					3,167 71
Victoria, M. and D., married members P.P.C.L.I.			90 00						90 00
" " "Resthaven" military hospital			750 00						750 00
" S.C.R., and S.S.B., Central building		143 50	4,132 00						4,275 50
" " "Craigdarrock" hospital			1,765 31						1,765 31
" " "Craigdarrock" hospital, store room			180 00						180 00
" " garage, 1111 Mear street			35 00						35 00
" " information service, 531 Bastion street			110 00						110 00
" " mechanical clinic, 1406 Douglas street			616 13						616 13
" " mechanical transport, corner Cornwall street			220 00						220 00
" " school for motor mechanics, garage, 1017 Rockland ave.			2,400 00						2,400 00
" " 913 Douglas street			900 00						900 00
" " 851-853 Fisguard street			800 00						800 00
" " 616 Tronnce street			140 00						140 00
" Soldiers' Settlement Board (Pemberton block)		585 84	600 00		167 36				1,353 20
British Columbia, sundry buildings ,generally		24 90	50 50						75 40
Soldiers Graves in France	22 06								22 06
Sundry military buildings generally	2,159 01							39,388 00	41,547 01
Taxation offices, generally		28,383 11							28,383 11
War Bonus								36 92	36 92
Sub-Total	511,345 28	150,939 26	520,403 57	1,846 83	1,852 51	414 66	254 99	39,424 92	1,226,482 02
Less North Sydney, Naval Air Station	6,937 15								
" Ottawa rents			1,652 80						8,589 95
Grand Total	504,408 13	150,939 26	518,750 77	1,846 83	1,852 51	414 66	254 99	39,424 92	1,217,892 07

EXPENDITURES by the Department of Public Works of Canada from all Appropriations

Recapitulation	Dredging	Construction and Improvements	Repairs	Staff and Maintenance	Total
Totals Public Buildings—	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Nova Scotia	.....	69,060 54	25,068 34	96,138 08	190,266 96
Prince Edward Island	.....	7,547 18	3,723 94	18,615 72	29,886 84
New Brunswick	.....	44,035 56	20,694 65	93,995 32	158,725 53
Quebec	.....	117,256 67	61,653 76	524,198 95	703,109 38
Ottawa	.....	2,397,464 12	209,540 97	2,510,098 65	5,117,100 74
Ontario (excluding Ottawa)	.....	661,579 83	47,893 22	458,089 15	1,167,562 20
Manitoba	.....	91,457 84	26,646 73	151,611 77	269,686 34
Saskatchewan	.....	33,581 68	16,741 89	94,936 50	145,260 07
Alberta	.....	31,227 11	23,304 67	130,432 33	184,964 11
British Columbia	.....	109,604 22	26,916 17	190,407 09	326,927 48
Yukon	.....	.....	.....	39,432 35	39,432 35
Public Buildings, Generally	.....	11,967 90	.....	99,002 30	110,970 20
Totals, Harbours and Rivers—					
Nova Scotia	246,198 66	1,671,486 08	137,613 44	4,492 70	2,059,790 88
Prince Edward Island	65,312 45	56,066 65	16,122 18	2,158 78	139,660 06
New Brunswick	129,566 63	1,236,754 23	87,423 43	60,541 64	1,514,285 93
Quebec	189,486 31	256,498 23	258,341 72	192,619 00	896,915 26
Ontario	242,909 17	2,219,246 49	194,564 08	99,359 12	2,756,078 86
Manitoba	72,707 16	24,116 53	15,092 06	34,073 46	145,989 21
Saskatchewan and Alberta	.....	978 47	.....	442 73	1,421 20
British Columbia	361,582 07	187,749 10	128,186 06	138,266 02	815,783 25
Harbours and Rivers, Generally	.....	15,008 17	.....	504,497 13	519,505 30
Totals—					
Dredging plant	.....	6,502 65	141,977 80	.....	148,480 45
Roads and bridges	.....	170,838 77	17,419 75	7,950 61	196,209 13
Telegraph and telephone lines	.....	28,997 63	48,749 52	1,005,494 90	1,083,242 05
Miscellaneous	.....	130,663 78	.....	900,864 68	1,031,528 46
Demobilization	.....	504,408 13	150,939 26	562,544 68	1,217,892 07
Grand totals of expenditures	1,307,762 45	10,084,094 56	1,658,553 64	7,926,263 66	20,970,674 31

CONTRACTS, DEEDS AND LEASES

Law Branch, P.W.D.

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1920, to March 31, 1921

Works.			Names of Contractors.	Date of Contract.	Amount.
PUBLIC BUILDINGS—*Continued*					
Nova Scotia.					
Annapolis	Public building	Reconstruction of	Denton & Condon	Sept. 16, 1920	$26,300 00
Annapolis Royal	Post office	Supply and installation of fittings	The J. T. Schell Company	Feb. 8, 1921	2,635 00
Yarmouth	Public building	Additions and alterations to	H. A. Russell & D. K. McAuley	Sept. 30, 1920	23,947 00 (25,947.00)
"	Post office	Supply and installation of fittings	Art Furniture Co., Ltd	Jan. 7, 1921	4,387 00
New Brunswick.					
Partridge Island (St. John).	Quarantine Station	Addition to 3rd class detention building.	James E. Kane	Jan. 28, 1921	20,388 35
St. John	Old post office	New steam boiler in, installation of.	James H. McPartland	Sept. 17, 1920	2,980 00
"	Immigration building	Alterations, etc., to heating apparatus.	R. E. Fitzgerald	Oct. 15, 1920	8,500 00
"	West "	Carpentry and painting	J. A. Grant & Co., Ltd	Dec. 8, 1920	2,100 00
"	" "	Plumbing	Wm. J. Crawford & Co	Dec. 8, 1920	220 00
"	County hospital	Garage coal bin and vegetable storage.	The Stephen Construction Co	Dec. 22, 1920	8,637 00
Quebec.					
Montreal	Central post office	Alterations, etc., to	P. Lyall & Sons Cons. Co., Ltd	July 13, 1920	26,428 00
"	Examining warehouse	Resetting of coping stones	T. Lessard & Sons Ltd	Oct. 12, 1920	965 00
Quebec	Marine store building	(King's wharf), General restoration and fitting up of interior, etc.	L. H. Peters, Limited	April 21, 1920	8,205 00
"	Customs Postal Parcels Branch	Fittings	Art Furniture Co., Ltd	Nov. 16, 1920	2,525 00
Richmond	Public building	Electric lighting standards	Wiggett Electric Co., Ltd	Aug. 14, 1920	575 00

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1920, to March 31, 1921—*Continued*

Works.			Names of Contractors.	Date of Contract.	Amount.
PUBLIC BUILDINGS—*Continued*					
Ontario.					
Fort William	City Hall	Fitting up office for Taxation Branch.	J. Hosegood	July 9, 1920	718 00
Hamilton	Postal Station "B"	Fittings	Burton & Baldwin M'f'g Co., Ltd	July 13, 1920	3,970 00
Kingston	Mowat Sanatorium	Electric passenger elevator	Otis Fensom Elevator Co., Ltd	April 19, 1920	3,840 00
"	R.M.C. (Educational Block)	Additional works in connection with main contract.	Pigott Healy Cons. Co	May 20, 1920	5,231 00
London	Psychopathic hospital	Valve house, foundation piers, installation of piping for water supply and installation of engine to run draft fan.	W. H. Harvey	April 17, 1920	11,010 00
"	Westminster "	Supply and installation of gravity tank.	Canadian Des Moines Steel Co., Ltd	Aug. 16, 1920	13,280 00
"	" "	Assistant Medical Officers Quarters and tile conduit from ward "H" to Nurses' Home.	W. H. Harvey	Oct. 11, 1920	158,780 00
"	" "	M.O's residence, heating apparatus.	Wright-Teale Co	Oct. 29, 1920	1,275 00
"	" "	Electric lighting of grounds and additions to transmission lines.	F. R. Dark	Feb. 9, 1921	3,676 00
Oshawa	Public building	Concrete roadways, etc., construction of.	John Carroll	June 16, 1920	1,850 00
Ottawa	Government Printing Bureau	Electric passenger elevator car and machinery.	Otis Fensom Elevator Co., Ltd	May 7, 1920	6,571 00
"	Printing Bureau	Alterations, etc., to	Bate, McMahon & Company	June 7, 1920	20,263 00
"	War Trophies building	Construction of	Doran & Devlin	June 18, 1920	17,789 00
"	Printing Bureau	Elevator enclosure, etc	Union Architectural Iron Works	July 13, 1920	5,450 00
"	Experimental Farm	Poultry office, construction of	Chas. Holbrook & Sons	Aug. 9, 1920	27,741 00 and for excavation p. cu. yd. earth $2.00, and for excavation p. cu. yd. rock, $5.00; and addition in cost if ash is used in place of pine $590.00; and addition in cost if birch is used in place of pine $675.00.

"	Printing Bureau	Alterations, etc., over boiler room.	The Geo. C. Graves Cons. Co.	Aug. 17, 1920	89,103 00 and any increase in price of cement used for construction of said works over $3.75 p. barrel up to $4.39 net to be added to amount of contract and any decrease below $3.75 p. barrel to be deducted from amount of contract.
"	Printing Bureau and The Royal Mint.	Supply of underground cable between the.	Ahearn & Soper, Ltd.	Sept. 2, 1920	3,651 00
"	Lansdowne Park (machinery building).	Construction of new ceilings.	J. E. Cooper, E. McDonell & D. Beatty.	Sept. 18, 1920	2,491 00
"	Ore dressing plant	Restoration of	Taylor & Lackey	Oct. 12, 1920	6,223 00 and for excavation p. cu. yd. $5.00 and for concrete including forms per cu. yd. $20.00.
"	Lansdowne Park, Machinery building.	New partitions, fittings and sewage tank.	Cooper, McDonell & Beatty	Nov. 1, 1920	8,913 00
"	Finance Department (East block).	Freight elevator	Otis Fensom Elevator Co., Ltd.	Nov. 16, 1920	3,337 00
"	Late Col. Geo. H. Baker, M.P.	Designing, modelling and having cast to best of his art and skill statue to—and installation of same into lobby of House of Commons.	R. Tait McKenzie	Dec. 21, 1920	12,000 00
"	Experimental Farm.	Alterations, etc., to residence for Poultry Husbandman.	J. E. Cooper, E. McDonell & D. Beatty.	Jan. 26, 1921	11,100 00 and for excavation per cu. yd. $3 00; and for new concrete forms per cu. yd. $20.00
Pembroke	Post office	Erection of clock tower	The Estate of Walter Beatty	Oct. 4, 1920	3,800 00
St. Thomas	"	Alterations to plumbing and toilet room.	Jones & Spry	Nov 25, 1920	5,600 00
Toronto	New Union station,	Supply of steam heat for east wing.	The Toronto Terminals R'y Co.	March 29, 1920	For 3 years from 1st May, '21 or from 1st delivery of steam

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1920, to March 31, 1921—*Continued*

Works.			Names of Contractors.	Date of Contract.	Amount.
PUBLIC BUILDINGS—*Continued.*					
Ontario—Con.					
Welland	Post office	Alterations, etc., to fittings	W. J. Hickey	Nov. 12, 1920	1,267 00
Woodstock	"	Supply and installation of fittings.	Arthur Bourque	April 20, 1920	3,950 00
Manitoba.					
Brandon	Public building	Electric wiring	Boyd Electric Co., Ltd	July .. 1920	1,186 65
Dauphin	"	Alterations to heating plant	W. H. Moore	Oct. 6, 1920	3,478 00
Portage la Prairie	Post office	Alterations, etc., to heating system.	Burns Bros	June 17, 1920	3,850 00
"	"	Supply and installation of fittings.	Snyder Bros	Mar. 12, 1921	5,088 00
Winnipeg	Main post office	Extension of mezzanine floor with counters and screens.	R. N. Wyatt	April 5, 1920	5,539 00
"	Tuxedo Military hospital	Additional works in connection with contract *re* Ward buildings, foundation walls, etc.	Carter-Halls-Aldinger Co., Ltd	April 26, 1920	3,574 00
"	"	Additional works in connection with contract *re* Medical Officers, Nurses and Orderlies quarters.	Carter-Halls-Aldinger Co., Ltd	April 26, 1920	1,453 41
"	Postal Station "A" immigration hall.	Supply of electric current to	Winnipeg Electric Ry. Co	April 27, 1920 (For 5 years).	10 00 (Minimum monthly charge)
"	Tuxedo military hospital	Fittings, etc	R. N. Wyatt	July 14, 1920	6,014 00
"	Customs building	Alterations, etc., to heating system.	Green & Litster, Ltd	Sept. 25, 1920	5,289 00
"	Immigration hall (east end)	Erection of marquees	The Vulcan Iron Works, Ltd	Nov. 10, 1920	1,665 00
Alberta.					
Edmonton	Public building and Mortlake block.	Changes for post office quarters	Frost & Ingram	Dec. 16, 1920	2,590 00
"	Main immigration building	Cleaning, painting, renewal of floors and general repairs to.	R. H. Trouth Co., Ltd	Jan. 12, 1921	1,790 00
Red Deer	Custom House	Alterations to for conversion of same into post office	W. H. Cawston	Sept. 20, 1920	11,750 00

Saskatchewan.					
Moose Jaw	Ross Park School	Restoration of same	H. E. Forbes	Aug. 20, 1920	11,297 50
Regina	Assistant Receiver General's Office	Installation of steel beams	Poole Construction Co., Ltd	Nov. 16, 1920	1,175 00
British Columbia.					
Comox	Public building	Electric wiring	W. H. Fraser Company	Aug. 6, 1920	500 00
Jericho Beach (Vancouver)	Air Board of Canada	Concrete platform for	Ambrose & Aitken	June 30, 1920	4,950 00
"	" "	Wooden slipway for	Wm. Greenlees	July 8, 1920	5,878 58
"		Plank roadway from Imperial st. alongside Beach to Air Station platform.	Wm. Greenlees	July 10, 1920	4,285 00
"	Air Board of Canada	Office and garage building for	W. J. Sloane & H. W. Harrison	Aug. 23, 1920	5,000 00
"	Air Station	Water system for	Weeks & Company	Sept. 7, 1920	2,669 52
Vancouver (Fairmont).	R.C.M.P. Barracks	Alterations, etc., to main building.	Jos. Wm. Bye	Aug. 17, 1920	4,917 50
"	" "	Conversion of existing building into garage—wiring conduit.	E. Chrystal & Co., Ltd	Aug. 17, 1920	3,083 00
"	" "	Restoration of a portion of	Jos. Wm. Bye	Oct. 27, 1920	18,000 00
"	" "	Horse stables at, construction of	Robt. Moncrieff	Nov. 30, 1920	44,932 00
Harbours and Rivers.					
Nova Scotia.					
Bass River	Wharf	Construction of	Naugle & Hiltz	Oct. 26, 1920	Sched. of prices.
Owl's Head	Public wharf	Repairs to	Naugle & Hiltz	Sept. 14, 1920	" "
Port Lorne	Breakwater	Construction of	Denton & Condon	Nov. 10, 1920	" "
Port Maitland	East breakwater	Construction and addition to	Denton and Condon	Nov. 10, 1920	" "
Seaforth	Breakwater	Repairs to	A. W. Girroir & W. F. Mackinnon	Oct. 26, 1920	" "
Shenacadie	Wharf	Construction of	E. M. Dickson	April 1, 1920	" "
Sober Island	Wharf	Cribwork extension to	Melvin Naugle	April 22, 1920	" "
Summerville	Wharf	Repairs to	Naugle & Hiltz	Feb. 22, 1921	" "
Three Fathom Harbour.	Shore protection	Reconstruction and repairing of portion of.	Naugle & Hiltz	Oct. 26, 1920	6,079 20
West Chezzetcook.	Breakwater	Repairs to	A. W. Girroir & W. F. MacKinnon	Oct. 26, 1920	Sched. of prices.
New Brunswick.					
Grande Anse	Dredging	Class "B" per cu. yd	Miramichi Dredging Co., Ltd	Aug. 28, 1920	$0.63½ (on barge)
Lord's Cove (Deer Island).	Wharf	Construction of	F. L. Boone & G. S. Macdonald	Oct. 20, 1920	Sched. of prices.
Miramichi River (Northwest).	Dredging	(Three shoals, Goodfellow bar., Cassilis-Lawlor's shore), Class "B" per cu. yd.	Miramichi Dredging Co., Ltd	June 2, 1920	$0.54¾ (scow).

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1920, to March 31, 1921—*Continued*

Works.		Names of Contractors.	Date of Contract.	Amount.
HARBOURS AND RIVERS—*Con.*				
Alberta—Con.				
Quaco (St. Martins). Mar-Eastern breakwater.....	Reconstruction of.	The Stephen Construction Co., Ltd.....	Dec. 7, 1920	Sched. of prices.
St. John Harbour. Grain conveyor equipment to berth 15.....		The Fegles Construction Co., Ltd.....	May 12, 1920	" "
" Dredging in deep water berths	Class "B" per cu. yd.....	J. A. Gregory.....	Sept. 20, 1920	$0.32 (scow)
Quebec.				
Anse aux Gascons Wharf.....	Construction of.....	Thos. P. Charleson.	Sept. 10, 1920	Sched. of prices.
Cap St. Ignace.. Public wharf.....	Repairs to.....	E. Caron & Frere.....	Nov. 4, 1920	" "
Pointe aux Trem-bles. Landing pier.....	Repairs to.....	Albert Giguere.....	Aug. 23, 1920	" "
Ste. Famille (Island of Orleans). Is-Public wharf.....	Repairs and reconstruction of.....	Onesime Poliquin.....	Aug. 24, 1920	" "
St. Francois Sud Wharf (Island of Orleans).....	Repairs to.....	Simeon Ratte.....	July 26, 1920	" "
St. Joseph de Sorel. So-Ice-breaker.....	Construction of.....	A. Lacroix & Hormisdas Gravel.....	Oct. 1, 1920	2,800 00
Ontario.				
Bayfield.. South pier.....	Reconstruction of half of.....	Weston Bros.....	Nov. 9, 1920	Sched. of prices.
Bowmanville.....Dredging.....	Class "B" per cu. yd.....	The C. S. Boone Dredging & Construction Co., Ltd.	Aug. 21, 1920	$0.64 (situ).
Burlington Channel. Removal of old swing bridge and construction of superstructure of single lift Strauss Trunnien Bascule Bridge.		The Canadian Engineering & Contracting Co. Limited.	Nov. 30, 1920	Sched. of prices.
Cobourg..... Dredging.....	Class "B" per cu. yd.....	The Frontenac Dredging Co., Ltd.....	Aug. 9, 1920	$0.55 (scow).
" ..... Checkwater pier.....	Repairs to.....	The York Construction Co., Ltd.....	Sept. 15, 1920	Sched. of prices.
Kagawong (Manitoulin Island). Wharf and warehouse.....	Construction of.....	McNamara Bros. & Thornton.....	June 26, 1920	" "
Kingston (above Cataraqui Bridge). Dredging.....	Class "B" per cu. yd.....	The Frontenac Dredging Co., Ltd.....	Aug. 9, 1920	$0.50 (situ).
Kingston (harbour front). Dredging.....	Class "B" per cu. yd.....	The Frontenac Dredging Co., Ltd.....	Aug. 9, 1920	$0.50 "
Little Current.. Wharf.....	Rebuilding of.....	Wm. Bermingham.....	June 24, 1920	Sched. of prices.
Oakville.. Dredging.....	Class "B" per cu. yd.....	The C. S. Boone Dredging & Cons. Co., Ltd.	Aug. 21, 1920	$0.65½ (situ).
Owen Sound.....Wharf.....	Reconstruction of.....	Ed. Conroy.....	Sept. 27, 1920	Sched. of prices.

Pelee Island	West pier	Reconstruction of superstructure	Border Cities Construction Co., Ltd	Sept. 22, 1920	Sched. of prices.
Port Arthur	Dredging	Class "B" per cu. yd	Canadian Dredging Co., Ltd	July 2, 1920	$0.28 (scow).
Port Hope	Dredging	Class "B" per cu. yd	The Frontenac Dredging Co., Ltd	Aug. 9, 1920	$1.70 (situ).
Rondeau	Sheet pile wharf	Construction of	Wm. Bermingham	Nov. 1, 1920	Sched. of prices.
"	Western pier	Reconstruction of portion of superstructure of.	Border Cities Construction Co	Nov. 22, 1920	" "
Thessalon	Wharf	Reconstruction of part of superstructure of.	Geo. P. Sandie	Oct. 6, 1920	" "
Toronto	Harbour works	Turning basin, ventilation channel, breakwater.	Roger Miller & Sons, Ltd	Aug. 12, 1920	On basis of cost plus 7½ p.c.
"	Island	Rubble mound stone breakwater off southern shore of.	The Randolph Macdonald Co., Ltd	May 26, 1920	Sched. of prices.
"	Eastern channel to Toronto Harbour.	Reconstruction of 466 feet of superstructure of east pier.	The C. S. Boone Dredging and Construction Co., Ltd.	Oct. 12, 1920	" "
"	Harbour	Construction of additional section of cribwork and building sections "D" and "J".	Roger Miller & Sons, Ltd	Dec. 30, 1920	45,475 00
Whitby	Dredging	Class "B" per cu. yd	The C. S. Boone Dredging & Construction Co., Ltd.	Aug. 21, 1920	$0.64½ c. (situ).
	Manitoba.				
Selkirk	Supply of electric energy to operate slip located at		Town of Selkirk	.....	From April 1, 1920 to date of expiry of contract between Town of Selkirk and The Winnipeg, Selkirk and Lake Winnipeg Ry. —from Mar. 15 to Nov. 15 in each calendar year minimum rate of $60.00 per month for entire term of Agreement.
	Alberta.				
Banff	Substructure, approach spans, etc., etc., of bridge over the Bow river		Fegles Construction Co., Ltd	Sept. 23, 1920	$169,900 00 and $1.25 for piles longer than 18 ft.
"	Structural steel of the new bridge across the Bow river		Dominion Bridge Co., Ltd	Sept. 23, 1920	73,886 00

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1920, to March 31, 1921—*Concluded.*

Works.			Names of Contractors.	Date of Contract.	Amount.
HARBOURS AND RIVERS—*Continued.*					
British Columbia.					
Campbell River	Wharf	Construction of	Wm. Greenlees	Sept. 23, 1920	Sched. of prices.
Esquimalt	Dry dock	Construction of	P. Lyall & Sons Construction Co., Ltd	Feb. 17, 1921	" "
Graham Landing	Public floating wharf	Construction of	L. H. Rawling	Dec. 15, 1920	13,832 00
Hollyburn	Wharf	Construction of and execution of repairs and dredging.	Wm. Greenlees	Nov. 2, 1920	Sched. of prices.
Kuskanook	Floating wharf	Construction of	F. Cogle & H. Perryleake	Aug. 16, 1920	7,950 00
Lyall Harbour	Wharf	Construction of	Vancouver Pile Driving & Contracting Company.	Sept. 23, 1920	Sched. of prices.
Moresby Island	Wharf	Renewal of	Vancouver Pile Driving & Contracting Company.	Sept. 23, 1920	" "
Princess Creek	Public floating wharf	Construction of	F. Cogle & H. Perryleake	Sept. 27, 1920	7,980 00
Procter	Floating wharf	Construction of	F. Cogle & H. Perryleake	Oct. 22, 1920	7,940 00
Royston	Wharf	Repairs to	Wm. Greenlees	Nov. 26, 1920	Sched. of prices.
South Gabriola Island.	Wharf	Construction of	Daniel Owen Shook	Mar. 11, 1921	" "
Stewart	Wharf	Construction of	Wm. Thos. Muse	April 22, 1920	" "
Thetis Island	Wharf	Construction of	Vancouver Pile Driving & Contracting Co.	Sept. 15, 1920	" "
William Head. Quarantine Stn. (Maincoalwharf)	Dredging	Class "B" per cu. yd	The Pacific Construction Co., Ltd	July 5, 1920	$0.48 (situ).
VESSELS, DREDGES AND PLANT.					
Execution of repairs to "Dredge No. 1" (Quinlaa & Robertson)			Montreal Dry Dock & Ship Repairing Co., Ltd.	May 11, 1920	$13,625 00
GOVERNMENT TELEGRAPH SERVICE.					
Freighting of supplies for Yukon telegraph line from Hazelton, B.C., to Northwards 2nd, 3rd, 4th, 5th, 6th, 7th, 8th and 9th cabin.			G. M. Beirnes	Jan. 17, 1921	5,280 00 (approximate quantity 24,000 lbs. at $0.22 per lb.)
Freighting of supplies for Yukon telegraph line from Telegraph Creek to Northwards Shesley, Nahlin, Nakina, Southwards, Iskoot, Echo Lake.			Frank Callbreath	Feb. 1, 1921	2,100 00 (approximate quan- 15,000 lbs. at $0.14 per lb.)

STATEMENT No. 2.—Properties purchased or sold by the Department of Public Works of Canada, from April 1, 1920, to March 31, 1921

Date of Conveyance.	Vendors.	Purchasers.	Description of Property.	For what Purpose.	Area.	Price.
1920.						$ cts.
April 6	Wm. D. Walker	His Majesty	Sale of land composed of lot 24, in 1st Con., Township of Westminster, Ont.	Psychopathic Hospital.	5 acres	5,250 00
" 15	Provincial Government of Quebec.	Federal Government.	Sale of land composed of lot "C", of south part of lot 31, R 8 and of land composed of sections of bed of Lake Kipawa and of bed of River Kipawa, Township of Mazenod, Co. of Timiskaming, Que.		1st lot 3 acres.. 2nd lot 2 acres.. 3rd lot 3 acres..	1 00
" 20	Provincial Government of British Columbia.	Dominion Government.	Transfer of wharf, the site thereof and approach thereto—Hopkins Landing, Howe Sound, B.C.			Free transfer.
May 5	Margaret Rose Watt	His Majesty	Grant and release of certain parcel of land composed of portion of Sec. 56, Parry Bay, Dist of. Metchosin, B.C.,	William Head Quarantine Station.	18·25 acres	
" 11	Certificate of Title		And Certificate of Title *re* land being portion of Sec. 56, Parry Bay, Dist. of Metchosin, B.C.	" "	18·25 acres	9,041 67
" 18	Marie L. Clute and Elizabeth F. F. Fell.	His Majesty	Release of claims *re* parcel of land in Sec. 81, Dist of Metchosin, B.C.	" "		100 00
" 19	His Majesty	City of Lethbridge.	Sale of parcel of land most southerly 60 ft. throughout of lots Nos. 19 to 22 inclusive—Block II, with buildings, Lethbridge, Alta.	Private enterprise		4,000 00
" 20	The Cochrane Hardware Limited.	His Majesty	Sale of town plot of Shaftesbury being that part of lot "B" water frontage opposite lot No. 26, Little Current, Ont.	Site for wharf		900 00
" 20	Edward Mackie *et ux*	"	Sale of land being in front of town lot 26, Little Current, Ont.	" "		1,300 00
" 20	Js. A. Barrett *et al*	"	Release in connection with land composed of westerly part of city lot 11, north side of Albert street, Ottawa, Ont.	Hunter building		9,309 79
" 26	His Majesty	Corporation of city of Brantford.	Grant of certain premises composed of lot No. 20 on north side of Dalhousie street, Brantford, Ont.		½ acre	25,100 00
" 26	City of Toronto	His Majesty	Release of all claims, etc., *re* expropriation of land (formerly Melita street) Toronto, Ont.	Toronto Ortho. hospital		No money consideration.
" 27	Eliz. Pierce	To city of Ottawa and His Majesty.	Release of all claims *re* injuries caused by fall on defective sidewalk on Lyon street, Ottawa, Ont.			47 75
" 27	The Canadian Pacific Railway Co.	His Majesty	Easement *re* right of way and access to Immigration building, parish of St. John, Winnipeg, Man.			1 00
" 28	Roland F. Taylor	"	Surrender of lease *re* property known as "Resthaven," Saanich Peninsula, Vancouver Island, B.C.			(Representing 5 mons. rent) 1,250 00

STATEMENT No. 2.—Properties purchased or sold by the Department of Public Works of Canada, from April 1, 1920, to March 31, 1921—*Continued*

Date of Conveyance.	Vendors.	Purchasers.	Description of Property.	For what Purpose.	Area.	Price.
1920.						$ cts.
June 10	Frank Baccus Wallace	His Majesty	Grant of land and land covered by water, Turkey Island, Essex Co., Ont.	Fighting Channel	33·35 acres	1 00
" 11	Certificate of Title	"	Certificate of Title *re* portions of lots 61, 87 and lots 96 and 116, parish of St. John, Winnipeg, Man.	Site for wharf		
" 11	" "	"	Certificate of Title *re* portions of lots 95 and 117 and portion of lot 88, parish of St. John, Winnipeg, Man.	"		
" 14	His Majesty	Corporation of city of Kingston.	Grant of grounds northeast corner of Government property at Kingston Dry Dock, Kingston, Ont.			4,500 00
" 18	Nelson Mitchell	Mis Majesty	Agreement *re* right of way between property at rear of public building at lot No. 253, Granby, Que.	Government purposes		500 00
" 19	Robert Mines *et al.*	"	Sale of land, part of north half of lot 24 in 1st Con., tp. of Westminster, Ont.	Westminster Psychopathic hospital.		11,000 00
" 23	Certificate of Title		Certificate of Title *re* portion of lot 60, parish of St. John, Winnipeg, Man.	Site for wharf		
" 23	" "		Certificate of Title *re* portion of lot 35, parish of St. John, Winnipeg, Man.	Site for wharf		
" 24	R. Annie, W. R. Dunbar and Christina M. Fraser *et al.*	His Majesty	Release for all claims *re* Dunbar building or Colonial Inn, Fredericton, N.B.			Final rental of Colonial Inn 700 00
The following item received too late for insertion in last year's Annual Report (1919-1920).						
June 15, 1917	Provincial Government of New Brunswick.	Federal Government.	Transfer of wharf site, Lord's Cove, N.B.			Free transfer.
July 2	His Majesty	Janet Mary Chamberlain.	Sale of lots Nos. 9 and 10, block 23, Peterborough map 692, with buildings, at Wilbur, B.C.			400 00
" 15	Notice of expropriation		Expropriation of leasehold interest *re* ground floor and basement of 290 Danforth ave., Toronto, Ont.	Postal Station		
" 30	Reid and Archibald	His Majesty	Release and discharge for all claims, etc., in *re* contract for works in harbour of Inverness, N.S.			9,396 25
Items received too late for insertion in last year's Annual Report (1919-1920).						
July 10, 1906	Oliver Brown	His Majesty	Sale of land and land covered by water, tp. of Dover, Ont.	For turning basin and approaches.	628 sq. yds.	1 00
July 15, 1919	Quinlan & Robertson	"	Bill of sale *re* vessel "George R"			1 00

1920. Aug. 3	City of St. John, N.B.	His Majesty	Release for damages which might be caused by dredging portion of harbour of St. John, N.B.			
" 3	Thomas Filion	"	Deed of easement *re* lots Nos. 34 and 35, tp. of Latulippe, Que.	Quinze Lake dam	145·80 acres	728 50
" 4	Town of Kenora	"	Grant of land covered by water composed of water lot L.K. 231, Kenora Bay, Ont.	Government purposes	0·37 acre	20 00
" 12	His Majesty	Wm. Henry McLean.	License to operate ferry between tp. of Onslow, Que., and tp. of Fitzroy, Ont.		During 5 years	$5.00 per ann.
" 14	Wm. MacDonald	His Majesty	Release of all claims for damages in *re* expropriation of land at Eastern Passage (Halifax, N.S.)	Airplane station		1,600 00
" 18	The Halifax Graving Dock Co., Ltd.	"	Deed and release of all claims *re* parcel of land and land covered by water, Richmond (Halifax, N.S.)	Halifax Graving Dock	7·5 acres	1,394,080 17
" 25	His Majesty	L. A. Rostein	Bill of sale *re* vessel "P.W.D. No. 313"			10,250 00
" 26	F. C. Sims and C. L. D. Sims *et uxores*.	His Majesty	Sale of town plot of Shaftesbury being part of water frontage in front of lot No. 26, Little Current, Ont.	Site for wharf		3,225 00
" 27	Jos Hercule Dansereau	"	Assignment and surrender of lease *re* Ile Caron (St. Maurice River), Que.			
" 27	" "	"	Assignment and surrender of lease *re* Ile St. Christpohe (St. Maurice River), Que.			

Items received too late for insertion in last year's Annual Report (1919-1920).

Aug. 27, 1912	Notice of expropriation		Expropriation of land in parish of St. Martin (Vaughan's Creek), Quaco, N.B.	Site for wharf	1¾ acres	
" 6, 1914	Certificate of title		Certificate of title *re* lot 7, block 61, Calgary, Alta.	Site for public building		
Sept. 6	Frank Charron	His Majesty	Release of all claims for past, present and future damages caused to lot 23, R 8, tp. of Latulippe, Que.	Quinze Lake dam	11·30 acres	427 00
" 9	His Majesty	Regina Trading Co., Ltd.	Sale of lots 18, 19 and 20, block 326, Regina, Sask.	Private purposes		60,000 00
" 11	Pierre Bourgeois	His Majesty	Release of all claims in *re* piece of land, Napierville, Que.	Site for public building		400 00
" 15	J. B., Geo. B., and F. W. Klock.	"	Release of all claims in *re* berth No. 5, R 1, block A, Quinze Lake, Que.	Quinze Lake dam		10,000 00
" 21	Certificate of ownership	"	Certificate of ownership *re* s.e. part of water lot "A", Kenora Bay, Ont.	Subway wharf extension		
Aug. 21	Certificate of title		Certificate of ownership *re* part of water lot "A" adjoining Keewatin road and Government water lot in town of Kenora, Ont.	Subway wharf extension	3,150 sq. ft	
" 23	" "		Grant of water lot L.K. 231, Kenora Bay, Ont.	" "	37·100 acre	
" 29	" "		Certificate of title *re* wharf adjoining roadway post, lot 1, block 57 A Map 519, Naramata, B.C.			

STATEMENT No. 2.—Properties purchased or sold by the Department of Public Works of Canada, from April 1, 1920, to March 31, 1921—*Continued*

Date of Conveyance.	Vendors.	Purchasers.	Description of Property.	For what Purpose.	Area.	Price.
1920.						$ cts.
Sept. 29	Certificate of title	His Majesty	Wharf adjoining roadway between lots 6 and 7, Map 808, Whipple, B.C.			
" 29	" "	"	Wharf adjoining the Okanagan Indian Reserve, Whiteman, B.C.			
" 29	" "	"	Wharf adjoining Indian Reserve No. 10, Westside Ferry, B.C.			
" 29	" "	"	Wharf adjoining s.w.¼ sec. 20, tp. 23, McKinley, B.C.			
" 29	" "	"	Wharf adjoining Indian Reserve No. 9, West Bank, B.C.			
" 29	" "	"	Wharf adjoining lot "O" block "E", Map 454, Okanagan Centre, B.C.			
" 29	" "	"	Wharf adjoining n.w.¼ of sec. 8, tp. 14, Carrs Landing, B.C.			
" 29	" "	"	Wharf adjoining district lot 3745, Wilson's Landing, B.C.			
" 29	" "	"	Wharf adjoining end of Van Horne street, Map 479, Penticton, B.C.			
" 29	" "	"	Wharf adjoining district lot 539, group 1, Bear Creek, B.C.			
" 29	" "	"	Wharf adjoining end of roadway between lot 1, block 8 and lot 1, block 9, Map 125, Peachland, B.C.			
" 29	" "	"	Wharf adjoining at end of roadway between lot 1, block A and lot I, block "B", Trepanier, B.C.			
" 29	" "	"	Wharf adjoining district lot 3795 and 2197, Killiney, B.C.			
" 29	" "	"	Wharf adjoining district lot 3329, Ewings Landing, B.C.			
" 29	" "	"	Wharf adjoining district lot 3541, Nahun, B.C.			
" 29	" "	"	Wharf adjoining n.w.¼ sec. 25, tp. 28, Okanagan Mission, B.C.			
Items received too late for insertion in last year's Annual Report (1919-1920).						
Sept. 12, 1905	A. G. Atkinson	His Majesty	Sale of land and premises, tp. of Tilbury East, Ont.	Public wharf Jeannette's Creek.	0·574 acre	10 00
" 12, 1905	The municipal corporation of tp. of Tilbury East.	"	Agreement to construct and maintain public highway between lots 10 and 11, tp. of Tilbury East, Ont.	In *re* public wharf		

Oct. 6	His Majesty	Eastern Canada Stevedoring and General Contracting Co.	Bill of sale *re* sailing ship "Angus W. Robertson."			1,000 00
" 6	"	Rev. R. Bazin, P.P.	Grant of certain parcel of land being part of lot 35, R 4, tp. of Loranger, Que.	Private purposes		1,525 00
" 6	"	James Johnstone	Grant of two parcels of land comprising portion of sublot "C" of subdivision of lot 6983, group 1, district of W. Kootenay, B.C.	Exchange of other lands (in connection with wharf at Boswell).	1st parcel 212·8 sq. ft. 2nd parcel 0·0 acre.	49
" 7	Certificate of title		Certificate of title *re* piece of land known as part of sublot No. 1 of lot 745-8, group 1, Map 999, district of W. Kootenay, B.C.	" "	0·09 acre	
" 11	Edmond Champagne	His Majesty	Release of all claims for past, present and future damages caused to parcels of land forming part of lot 48-3, tp. of Latulippe, Que.	Quinze Lake dam	33·02 acres	1,005 00
" 20	His Majesty	St. John Dry Dock & Shipbuilding Company, Ltd.	Bill of sale *re* sailing ship "Katherine K"			5,000 00
" 22	Notice of expropriation		Expropriation of land being part of water lot "G" in front of water lot "C" forming part of subdivision of water frontage opposite town lot 26, Little Current, Ont.	Site for wharf		
" 25	David Robichaud	His Majesty	Deed of release and servitude *re* lot 38, R 4, tp. of Latulippe, Que.	Dam and sluiceways on Quinze Lake dam.	26·75 acres	260 50
" 26	Canadian Northern Realties, Ltd.	"	Transfer of land and premises being part of easterly part of lot "F", con. "D", Rideau Front, Ottawa, Ont.	R.C.M.P. Barracks	26·30 acres	78,900 00
" 27	J. Coughlan & Sons, Ltd.	"	Agreement *re* construction of Dry Dock and appurtenant works, Vancouver, B.C.	4½ p.c. during 35 years		

The following item was received too late for insertion in last year's Annual Report (1919-1920).

Oct. 29, 1918	Notice of expropriation		Expropriation of land and property being on south side of Southeastern Passage, Halifax, N.S.	Wireless station	3 acres	
Nov. 10	The city of Montreal	His Majesty	Permission and privilege granted *re* construction of additions to post office annex over Fortification Lane, Montreal, Que.			10,812 00
" 10	His Majesty	The Canadian Northern Pac. Ry.	Permission to bring in material from outside False Creek and dump it on bottom of same and then redredge such material and discharge on lands at head of False Creek, B.C.			
" 12	Department of Naval Service.	Department of Public Works.	Transfer of two small areas of land forming part of Naval hospital grounds, Skinners' Cove, Esquimalt, B.C.	Dry Dock	0·76 acre	Free transfer.

STATEMENT No. 2.—Properties purchased or sold by the Department of Public Works of Canada, from April 1, 1920, to March 31, 1921—*Continued*

Date of Conveyance.	Vendors.	Purchasers.	Description of Property.	For what Purpose.	Area.	Price.
1920.						$ ct s
Nov. 18	His Majesty	J. P. Ranger	Sale of material used in construction of wharf and sheds at foot of Quinze street, North Timiskaming, tp. of Nedelac, Que.	Private enterprise		200 00
" 20	Certificate of ownership		Certificate of ownership re part of lot 11 in 6th con., tp. of Harris, Ont.	Timiskaming reservoir dam.	35 acres	
" 22	Alfred McEwan and wife	His Majesty	Sale of land partly covered by water, Merigomish, N.S.	French River wharf	0·11 acres	100 00
" 23	Provincial Government of British Columbia.	Dominion Government.	Order in Council reserving lot No. 4198, Cassiar district, vicinity of Stewart, B.C.	Wharf site	Free grant	
" 25	His Majesty	Town of Peace River.	Grant of parcel of land being part of lot No. 4, Peace River Landing Settlement, Alta.		Free grant	

The following items were received too late for insertion in last year's Annual Report (1919-1920).

Nov. 28, 1904	Thorvaldur Thorvaldsson	His Majesty	Deed of land being portion of south ½ of sec. 15, tp. 21, R 4, east of principal meridian, province of Manitoba.	Wharf site	1·841 acres	1 00
" 28, 1904	Sigurdur Sigurbgornsson	"	Deed of land being portion of north ½ of sec. 15, tp. 21, R 4, east of principal meridian, province of Manitoba.	"	2·63 acres	1 00
Dec. 6	Notice of abandonment		Abandonment of land in connection with property corner of Danforth Road and Ferrier Ave., Toronto, Ont.			
"	Certificate of title		Wharf adjoining northwesterly portion of sec. 68, s. division of Salt Spring Island, Cowichan district, Burgoyne Bay, B.C.			
" 6	" "		Wharf adjoining s.w. ¼ of sec. 57, s. division of Salt Spring Island, Cowichan district, Beaver Pt., B.C.			
" 6	"		Wharf adjoining h.w. mark of sec. 12, R 1, north division of Salt Spring Island, Cowichan district, Fernwood, B.C.			
" 6	" "		Wharf adjoining portion of sec. 14, R 1, south division of Salt Spring Island, Cowichan district. Fulford Harbour, B.C.			
" 6	" "		Wharf adjoining h.w. mark of sec. 9, R 2 w. of sec. 10, R 3, north division of Salt Spring Island, Cowichan district, Vesuvius Bay, B.C.			
" 6	" "		Wharf adjoining h.w. mark, s.w. ¼ of sec. 20, Nanaimo district, Gabriola Island, B.C.			

" 6	" "		Wharf adjoining n.w. ¼ of sec. 19, Cowichan district (Pender Island), Hope Bay, B.C.				
" 6	" "		Wharf adjoining n.e. ¼ of sec. 20, Cowichan district (Pender Island), Pender Island, B.C.				
" 7	" "		Wharf adjoining s.w. ¼ of sec. 12, Cowichan district, Mayne Island, B.C.				
" 7	" "		Wharf adjoining s.w. ¼ of sec. 18, Saturna Island, Cowichan district, Lyall Harbour, B.C.				
" 7	" "		Wharf adjoining h.w. mark on n.w. ¼ sec. 5, Galiano Island, Cowichan district, Sturdies Bay, B.C.				
" 7	" "		Wharf adjoining west half of n.w. ¼ sec. 18, Denman Island, Cowichan district, Denman Island, B.C.				
Dec. 7	Certificate of title		Wharf adjoining h.w. mark s.w. ¼ sec. 2, Hornby Island, Nanaimo district, Hornby Island.				
" 7	" "		Wharf adjoining lot 64, Carter Island, Sayward district, Mansons Landing, B.C.				
" 7	" "		Wharf adjoining lot 8, Quadra Island, Sayward district, Quatiaski Cove, B.C.				
" 7	" "		Wharf adjoining h.w. mark on lot 304, Sayward district, Salmon River, B.C.				
" 7	" "		Wharf adjoining sec. 3, Sooke district, Sooke Harbour, B.C.				
" 7	" "		Wharf adjoining lot 1, Thetis Island, Cowichan district, Thetis Island, B.C.				
" 7	" "		Wharf adjoining h.w. mark on west coast of Moresby Island, Cowichan district, Moresby Island, B.C.				
" 7	" "		Wharf adjoining h.w. mark of Indian reserve, Cowichan district, Kuper Island, B.C.				
" 7	" "		Wharf adjoining lot 648, R 1, Coast district, Minstrel Island, B.C.				
" 7	" "		Wharf adjoining sec. 1, Quatsino, Rupert district, Coal Harbour, B.C.				
" 11	His Majesty	Chambers, McQuigge & McCaffrey Company, Limited	Permission to lay and use at their own cost track over and across original breakwater, Bare Point (Port Arthur), Ont.				
" 15	"	The Bell Telephone Co. of Canada.	Agreement *re* installation of new system of telephone for Government offices, Ottawa, Ont.	For 10 years			
" 16	"	H. J. Dixon	Bill of sale *re* tug *Sir John*				1,000 00
" 16	"	Jean J. Crete	Bill of sale *re* tug *Annette*				2,626 00
" 16	G. H. Hale	His Majesty	Sale of land being part of lot 7542, group 1, Kootenay district, B.C.	Site for wharf	0·18 acre		1 00

STATEMENT No. 2.—Properties purchased or sold by the Department of Public Works of Canada, from April 1, 1920, to March 31, 1921—*Continued*

Date of Conveyance	Vendors	Purchasers	Description of Property.	For what purpose.	Area	Price
The following items were received too late for insertion in last year's Annual Report (1919-1920).						
Dec. 4, 1918....	The Equitable Investment Corporation, Limited.	His Majesty....	Sale of parcel of land on east side of South-east Passage, Halifax, N.S.	Air Station, Eastern Passage.	11·8 acres.....	4,991 00
" 10 "	Alexander Horne *et uxor*...	" ...	Sale of parcel of land on east side of South-east Passage, Halifax harbour, N.S.	Air Station, Eastern Passage.	4·44 acres.....	11,228 00
1921. Jan. 5.....	Cartificate of title.....	.....	Certificate of title *re* all that portion of s.w. ¼ of sec. 27, tp. 20, R. 21, west of 2nd meridian, Regina, Sask.	Craven dam.....	65·08 acres.....	.....
" 8.....	Certificate of ownership...	.....	Certificate of ownership *re* parcel of land between May and Rebecca and Murray streets on Wahbe river, New Liskeard, Ont.	Timiskaming reservoir dam.	1/12 of acre.....	180 00
" 14.....	Certificate of title.....	.....	Certificate of title *re* portion of bed of Howe sound lying in front of district lot 490, Map 490, Snug Cove, B.C.	.....	.....	.....
" 14.....	" "	.....	Certificate of title *re* portion of bed of Howe sound lying in front of district lot 911, Map 1620, Hopkins Landing, B.C.	.....	.....	.....
" 14.....	Marius Dufresne.....	His Majesty ...	Release of all claims under judgment in connection with post office, Maisonneuve, Que.	.....	.....	5,580 00
" 17.....	C. W. Sharpe & Co., Ltd.	" ...	Release of all claims in *re* plant formerly owned by Co., Toronto, Ont.	(Toronto harbour works)	.....	42,705 41
" 17.....	Notice of expropriation....	.....	Expropriation of land being part of sec. 10, Skinner's Cove, B.C.	Dry Dock.....	0·36 acre.....	.....
" 17.....	" "	.....	Expropriation of land being part of sec. 2, Skinner's Cove, B.C.	"	0·57 acre.....	.....
" 18.....	Certificate of title.....	.....	Certificate of title *re* portion of bed of Howe sound lying in front of district lot 686, Map 1618, Gibson's Landing, B.C.	.....	.....	.....
" 19.....	His Majesty.....	Fort William Paper Co., Ltd.	Permission to carry water pipe or pipes over, under or across property, Fort William, Ont.	.....	.....	1 00
" 22.....	Canadian Stewart Co., Ltd.	His Majesty....	Release for all claims in connection with plant formerly owned by Co. and for cost of maintenance and protection of said plant.	(Toronto harbour works)	.....	38,601 48
" 31.....	His Majesty.....	La Cie Generale du Port de Chicoutimi.	Bill of sale *re* vessel *Norah L*.....	.....	.....	500 00

" 31	"	" "	Bill of sale *re* vessel *Edward Q*			4,740 00
" 31	"	" "	Bill of sale *re* vessel *D'Arcy Leamy*			5,960 00

The following items were received too late for insertion in last year's Annual Report (1919–1920).

Jan. 6, 1914	J. B. Clarke and wife	His Majesty	Sale of land at Heustis Landing, N.B.	Huestis Landing	18,275 sq. ft.	25 00
" 31, 1919	Jos. F., Jno. Thos., Jane and Margaret McKim.	"	Sale of land composed of lots 3 and 4, plan 1122, Toronto, Ont.	Casualty clearing station		10,000 00
" 2, 1920	Geo. Gouinlock Estate	"	Sale of land described as lots 8, 9 and 10, south side of Ridge avenue, plan 1695, Toronto, Ont.	" "		8,000 00
" 15, 1920	City of Calgary	"	Release for all claims for damages caused by installation of water main, Calgary, Alta.			2,468 25
1920. Jan. 21	Provincial Government of B.C.	Dominion Government.	Relinquishing interest of province *re* parcel of land being portion of lot 1993 R.C. Coast district, Dodge Cove, B.C.			
" 28	Jos. F., Jno. Thos., Jane and Margaret McKim.	His Majesty	Sale of land composed of lots 3 and 4, plan 1122, Toronto, Ont.	Casualty clearing station		31,000 00
1921. Feb. 8	The Grand Trunk Railway Co.	"	Permission granted to attach to company's swing bridge over Burlington Beach canal a footway for pedestrians.	To continue until completion of new highway bridge.		
" 15	Provincial Government of New Brunswick.	Dominion Government.	Transfer of wharf at Red Store near St. George, N.B.			Free transfer.
" 15	Certificate of ownership.		Certificate of ownership of perpetual right to flood parcel south section, Timiskaming, township of Dymond, Ont.	Timiskaming reservoir dam.	0·71 acre	2,200 00
" 16	His Majesty	Canadian National Railways.	Release for all future claims *re* dredging for improvement of harbour, Long wharf, St. John, N.B.			

The following items were received too late for insertion in last year's Annual Report (1919–1920).

Feb. 14, 1907	Notice of expropriation		Expropriation of land at Lower Ship Harbour, N.S.	Site for public wharf	3,000 sq. ft.	
" 5, 1913	Certificate of ownership		Certificate of ownership *re* part of water lot in front of lot No. 33, block I, plan No.3 Kenora Bay, Ont.	Subway wharf extension		
" 6, 1920	Certificate of title		Certificate of title *re* certain parcel of land and premises in sections 2 and 10, Esquimalt, B.C.	Site for new dry dock	16·31 acres	
" 10, 1920	Gough and Sellers Investments, Ltd.	His Majesty	Quit claim deed *re* parcel of land composed of the easterly 10 feet from front to rear of lot No. 11, fronting on southerly limit of Ridge avenue, plan 1695, Toronto, Ont.	Casualty clearing station		1 00

STATEMENT No. 2.—Properties purchased or sold by the Department of Public Works of Canada, from April 1, 1920, to March 31, 1921—*Concluded.*

Date of Conveyance	Vendors	Purchasers	Description of Property.	For what purpose.	Area	Price
1921.						
Mar. 1	The Windsor, Essex and Lake Shore Rapid Railway Company.	His Majesty	Sale of land part of lot No. 1, northerly side of Main street, Kingsville, Ont.	Public building		2,000 00
" 8	Jos. E. Fuller	"	Release *re* tracts of lands and premises composed of lots 1, 2, 3, 4, 5 and 6, block 3 of Biggar tract, Brantford, Ont.	Brantford parade ground		100 00
" 10	Certificate of ownership		Certificate of ownership *re* tract of land and premises between May and Rebecca streets and south of Murray street, Wahbe river, tp. of Dymond, South Timiskaming, Ont.	Timiskaming reservoir dam.	1/12 acre	175 00
" 10	His Majesty	Delphis Lalonde	License to operate ferry across Ottawa river, between Fassett and St. Thomas d'Alfred, Ont.	During 5 years (from 1st May, 1921.)		10.00 per ann.
" 29	Certificate of title		Certificate of title *re* portion of parish St. Charles excepting 1st—all that portion taken for a road and 2nd all that portion taken for a public roadway.	Tuxedo Park		
The following items were received too late for insertion in last year's Annual Report (1919-1920).						
Mar. 16, 1920	The Bell Telephone Co. of Canada, Limited.	His Majesty	Permission to string wires on company's line between junction of Lake Beauport road and St. Pierre de Charlesbourg road, Que.			$9.00 per ann.
" 18 "	Certificate of ownership		Certificate of ownership *re* lot 343, plan M-79, north side of Scott street, New Liskeard, Ont.	Timiskaming reservoir dam.		175 00
" 24 "	Grand Trunk Pacific Development Company, Ltd.	His Majesty	Sale of land part of lot 1993, R. 5, Coast district, Digby Island, Prince Rupert, B.C.	Shipyard and quarantine station.	2·9 acres	1 00

STATEMENT No. 3.—Properties leased to and from the Department of Public Works of Canada, April 1, 1920, to March 31, 1921

Date of Lease.	Lessors.	Lessees.	Description of Property.	For what purpose.	Duration of Lease.	Rental.
1920. April 1.....	Palmer Motor Sales Co...	His Majesty....	Lease of portion of garage premises No. 135 King st. west, Hamilton, Ont.	Mechanical Transport, S.C.R.	6 months from date of occupation.	$1,200 per ann. (renewable)
" 1.....	Robert L. Newman (by M. M. Stephens Co., Agents.)	"	Lease of 2 adjoining rooms on 1st floor of "Stephens' Block," Prince Rupert, B.C.	Insp. of Taxation, Fin. Dept.	1 year from April 1, 1920.	$300 per ann.
" 1.....	The Canadian Northern Ry. Co.	" ...	Lease of ground floor of Company's sleeping and dining car dept. building, Edmonton, Alta.	Post Office Dept.....	From month to month from April 1, 1920.	$25 per month.
" 3.....	His Majesty.....	The Upper Ottawa Improvement Co. Ltd.	Lease of all Government works, slides, piers booms, etc., on Ottawa River and tributaries from mouth of Gatineau Riv. to Mattawa, Ont.	Private enterprise.....	21 years from Jan. 1, 1920...	$1 per annum (renewable)
" 3.....	Bawlf Securities Ltd.....	His Majesty....	Lease of suite No. 251 on 4th floor of "Chamber of Commerce Building", Winnipeg, Man.	Fisheries insp., Naval Service.	13 months from April 1, 1920.	$360 per ann.
" 5.....	J. H. Harris.....	"	Lease of 776 square feet on ground floor of three storey stone building, No. 565 Main st., Moncton, N.B.	Post Office.....	1 year from June 15, 1920.	$720 per ann.
" 6.....	Nault & Lacroix.....	"	Lease of 3rd floor of 3 storey brick building, No. 50 King st., Sherbrooke, Que.	Dist. Eng., P.W.D.....	1 year from May 1, 1920.	$1,000 per ann.
" 8.....	Thomas C. Rice.....	"	Lease of building on west side of main road on south side of bridge, Weymouth, N.S.	Post Office.....	1 year from June 1, 1920.	$200 per ann.
" 9.....	Wm. M. Birks, J. H. Birks and G. W. Birks.	"	Lease of room No. 512 in "new Birks Building," Montreal, Que.	Railways and Canals....	From March 15, 1920 to May 1, 1921.	$35 per month.
" 9.....	Mrs. Margaret Henderson.	" ...	Lease of one storey brick garage, cor. 6th Ave. and 6th st., Lethbridge, Alta.	A. & I. Units, M. & D.	2 years from date of occupation.	$150 per m. (renewable)
" 10.....	His Majesty.....	Walkerville-Ford G.W.V. Association.	Lease of public building property, Walkerville, Ont.	G.W.V.A. Local Br.....	During pleasure from April 10, 1920.	$1 per annum.
" 10.....	R. L. Blackburn.....	His Majesty....	Lease of 3rd floor of "Plaza Building," Ottawa, Ont.	S.C.R.....	From May 1, 1920 to May 1, 1921.	$3,650 per ann.
" 12.....	His Majesty.....	Kingcome Navigation Co., Ltd.	Lease of tug *Point Grey*.....	.....	For period of 6 months from date of delivery of tug to hirer.	$67 per diem.

STATEMENT No. 3.—Properties leased to and from the Department of Public Works of Canada, April 1, 1920, to March 31, 1921—*Continued*

Date of Lease.	Lessors.	Lessees.	Description of Property.	For what purpose.	Duration of Lease.	Rental.
1920 April 3	Brant Amusements' Ltd.	His Majesty	Lease of 2nd floor of building, cor. King and Dalhousie sts., Brantford, Ont.	S.C.R.	1 year from June 16, 1920.	$1,400 per ann.
" 14	Grey Nuns	"	Lease of ground floor only of building No. 23 Jeanne Mance st., Montreal, Que.	M. & D.	1 year from May 1, 1920.	$1,800 per ann.
" 14	Grey Nuns	"	Lease of part of basement of premises No. 23 Jeanne Mance st., Montreal, Que.	M. & D.	1 year from May 1, 1920.	$700 per ann.
" 15	Wm. James Boyd	"	Lease of part of 2nd floor of "Boyd Building," cor. of Edmonton and Portage Ave., Winnipeg, Man.	Ry. Commission	1 year from June 1, 1920.	$150 per m.
" 15	Canadian Cities and Town Properties, Ltd.	"	Lease of 2,000 sq. ft. on ground floor of "York Building," Saskatoon, Sask.	Customs Examining Warehouse.	1 year from June 5, 1920.	$1,800 per ann.
" 15	Union Bank of Canada	"	Lease of 1,050 sq. ft. in "Kerr" or "Union Bank Building," The Pas, Man.	Mining Recorder, Int. Dept.	1 year from Feb. 1, 1920.	$50 per month.
" 17	B. C. Ditson and Elsie M. Ditson.	"	Lease of 1,000 sq. ft. in building on lot 6, block 3, plan "G" 9, Kindersley, Sask.	H. Qts. 18th C.L.H. M. & D.	1 year from April 17, 1920.	$600 per ann. (renewable)
" 17	Fred. W. Scott	"	Lease of rooms No. 301, 302 and 303 in "Scott Block," Winnipeg, Man.	Int. Dept.	1 year from April 1, 1920.	$1,980 per ann.
" 17	Geo. H. Gillespie, Trustee	"	Lease of 18 rooms in brick residence No. 25 Emerald st. and use of adjoining lot, Hamilton, Ont.	S.C.R.	1 year from Mar. 11, 1920.	$1,200 per ann.
" 17	L. H. Levasseur, Registered.	"	Lease of part of 1st or ground floor of "Levasseur Block", on Lafontaine main st., Riv. du Loup Stn., Que.	Post Office	1 year from May 1, 1920.	$600 per ann.
" 19	F. A. Blaia	"	Lease of rooms No. 403 and 404 on 4th floor of "Connaught Building," Saskatoon, Sask.	Legal Branch S.C.R.	15 months from April 1, 1920.	$100 per m.
" 19	The Board of Trustees of Knox Church.	"	Lease of lots No. 8 and 9, block 145, Saskatoon, Sask.	M. & D.	From month to month from Mar. 1, 1920.	$100 per m.
" 20	Corporation of City of Sarnia.	His Majesty	Lease of upper floor of 2 storey brick building at foot of George st., Sarnia, Ont.	Militia and Defence	1 year from April 15, 1920.	$840 per ann.
" 20	Hudsons Bay Company	"	Lease of 5,800 sq. ft. in "Megaw Building," in Vernon, B.C.	S. S. Board	1 year from date of occupation.	$100 per m.
" 21	W. A. Bauer	"	Lease of rooms 509, 510, 511 and 512 and 3 vaults on 5th floor "Pacific Building," Vancouver, B.C.	Geo. Survey Branch, Mines Dept.	6 months from June 1, 1920	$115 per m.
" 21	Elizabeth Rogers	"	Lease of rooms Nos. 630 to 634 inc. in "Rogers Building," Vancouver, B.C.	S. S. Board	1 year from Mar. 1, 1920.	$102.50 per m.
" 21	Hon. A. L. Langman	"	Lease of "Fairbanks Morse Building," Calgary, Alta.	M. & D.	6 months from Jan. 1, 1920.	$900 per m.

"	26	The Bissett Company, Limited.	"	Lease of 216 sq. ft. on 3rd floor of warehouse No. 153 Lower Water st., Halifax, N.S.	Post Office Dept.	From month to month from Mar. 18, 1920.	$15 per month.
"	26	His Majesty	St. Maurice River Boom and Driving Company, Limited	Lease of all Government property on St. Maurice River, Que.	Private enterprise	For 21 years from Jan. 1, 1920.	$1 per annum.
"	26	Wm. McWilliams, Inc.	His Majesty	Lease of 1,123 sq. ft. on ground floor of southerly half of brick building, cor. D'Auteuil and Elgin sts., Quebec, Que.	Supt. Dom. Arsenal (M. & D.).	1 year from Sept. 1, 1920.	$675 per ann.
"	26	Quebec, Light, Heat and Power Co., Ltd.	"	Lease of room with 2 doors 502 and 503 on 5th floor of "Merger Building," Quebec, Que	S.C.R. Medical Clinic	From month to month from Mar. 1, 1920.	$62 per month.
"	27	H. L. Puttnam and Estate of John Withell.	"	Lease of basement and ground floor of "Old Stanley Church," No. 91 Stanley st., Montreal, Que.	M. & D.	1 year from May 1, 1920.	$6,000 per ann.
"	28	Canadian Northern Pacific Ry. Company.	"	Lease of class room in Canadian Northern Pacific Ry. Station, Vancouver, B.C.	Vocational Br. S.C.R.	From April 1, 1919 to Dec. 31, 1920.	$1 per annum.
"	29	Army and Navy Veterans' Association.	"	Lease of stable No. 1952 Hamilton st., Regina, Sask.	Armouries Service Corps	From month to month.	$15 per month (monthly tenancy).
"	30	The Royal Bank of Canada	"	Lease of rooms No. 311 and 312 on 3rd floor of "Royal Bank Building," London, Ont.	Medical treatment for returned soldiers.	3 months and 2 weeks from May 1, 1920.	$888 per ann.
May	1	GreatWar Veterans' Association, Regina.	"	Lease of portion of 4th floor of Veterans' block, Regina, Sask.	S.C.R.	2 years from Mar. 1, 1920.	$750 per ann.
"	3	Albion Motor Car Co. of Canada, Ltd.	"	Lease of 4,000 sq. ft. in 1-storey brick and stone building, No. 63 Prince st., Montreal, Que.	S.C.R.	1 year from April 1, 1920.	$4,000 per ann.
"	4	Bank of Montreal	"	Lease of 3 rooms in n.w. cor. of 1st floor of Bank Building, cor. King and Prince William st., West, St. John, N.B.	S.C.R.	1 year from May 1, 1920.	$900 per ann. (renewable)
"	4	Bank of Montreal	"	Lease of premises on 2nd floor of Bank of Montreal Building,, cor. King and Prince William st., West, St. John, N.B.	M. & D.	12 months from April 1, 1920.	$700 per ann.
"	5	Wm. Alfred Bauer	"	Lease of room No. 508 in "Pacific Building," cor. Hastings st. west and Howe st., Vancouver, B.C.	Mines Dept.	6 months from June 25, 1920.	$32.50 per m.
"	6	Patrick Labelle	"	Lease of ground floor stores, 3 upper floors and basement of "Labelle Building," Ottawa, Ont.	Interior Dept.	1 year from April 15, 1920.	$25,700 per an.
"	6	John Schultz	"	Lease of 3 rooms on 2nd floor of "Schultz Building," No. 37 and 39 Dalhousie st., Brantford, Ont.	Disabled (subnormal) soldiers workshop.	6 months from Feb. 19, 1920.	$75 per month.
"	6	John Fisken & Company	"	Lease of room No. 114 on 1st floor of "Pacific Building," No. 23 Scott st., Toronto, Ont.	Grain Insp. Staff (T. & C.)	1 year from April 15, 1920.	$55 per month.
"	10	Dominion Life Assurance Co.	"	Lease of rooms No. 502 to 507 inc. on 5th floor of "Westman Chambers," Regina, Sask.	S. S. Board	1 year from May 1, 1920.	$2,400 per ann
"	10	Dominion Life Assurance Co.	"	Lease of rooms No. 508 and 509 on 5th floor of "Westman Chambers," Regina, Sask.	S. S. Board	1 year from June 1, 1920.	$54 per month

STATEMENT No. 3.—Properties leased to and from the Department of Public Works of Canada, April 1, 1920, to March 31, 1921—*Continued*

Date of Lease.	Lessors.	Lessees.	Description of Property.	For what purpose.	Duration of Lease.	Rental.
May 11.	The Corporation of Town of Granby.	His Majesty....	Lease of lower and upper part of Armoury on cadastral lot No. 4454, Granby, Que.	M. & D.....	1 year from May 3, 1920.	$600 per ann.
" 11.	His Majesty.....	A. B. Gordon...	Lease of tug *Maggie "K"*.....	.....	From day tug is taken over in SturgeonFalls, Ont. and to continue until tug is delivered to owner at Sturgeon Falls, Ont.	$6 per day.
" 12.....	The Ogletree Motor Co., Ltd.	His Majesty...	Lease of space in garage No. 297 to 305 Barnell st., Winnipeg, Man.	"G" Unit, S.C.R.....	1 year from May 1, 1920.	$196 per m.
" 14.....	The J. L. Nichols Co., Ltd	"	Lease of 2-storey brick residence and space in garage No. 184 Spadina Ave., Toronto, Ont.	S.C.R.....	From month to month from June 1, 1920.	$200 per m. (monthly tenancy)
" 14.....	Thomas Andrew.....	" ...	Lease of office including use of telephone and typewriter in "Thomas Andrew Building," Summerside, P.E.I.	Voc. Br. S.C.R.....	8 months from April 12, 1920 and thereafter from month to month.	$15 per month.
" 18.....	David Steeves.....	"	Lease of premises on 2nd floor of 3-storey concrete building, George st., Moncton, N.B.	M. & D.....	1 year from April 1, 1920.	$960 per ann.
" 19	McDougal's Limited.....	"	Lease of portion of 3rd floor of "McDougall Building," No. 529 Sussex st., Ottawa, Ont.	Headquarters Staff Can. Air Force.	From to Dec. 16, 1920.	$750.40 per an.
" 25.....	A. M. Fraser.....	"	Lease of rooms, No. 204 and 205 in "Bon Accord Building," Winnipeg, Man.	S.C.R.....	From May 1, '20, to Mar. 31, 1921.	$110 per m.
" 25.....	The Corporation of the City of Fort William.	"	Lease of space of 3rd floor of "City Hall Building," Fort William, Ont.	Taxation Br., Finance Dept.	From May 1, '20, to May 1,	$1,200 per an.
" 26.....	City of Edmonton.....	"	Lease of "Strathcona Hospital," Edmonton, Alta.	S.C.R.....	2 years from Jan. 1, 1920. 1923.	$16,262 per an.
" 26.....	J. A. Humphrey.....	"	Lease of vacant church and building, Humphrey's mill road near Moncton, N.B.	M. & D.....	1 year from May 18, 1920.	$900 per ann. (renewable)
" 27.....	Furness, Withy & Co., Ltd.	"	Lease of 3 offices in building No. 75 Upper Water st., Halifax, N.S.	S. S. Insp. (Marine and Fisheries).	1 year from Aug. 1, 1920.	$600 per ann.

"	27	Nanaimo City School Board.	"	Lease of 2 rooms in shed No. 3 "Agricultural Socy. Building," Nanaimo, B.C.	M. & D.	1 year from May 19, 1920.	$10 per month.
"	28	The Royal Bank of Canada	"	Lease of rooms No. 302, 303 and 304 on 3rd floor of "Royal Bank Building," London, Ont.	S.C.R.	12 months from Aug. 15, 1920.	$1,308 per ann.
"	28	Kingston Auto Sales Co., Ltd.	"	Lease of portion of "Auto Sales Co. Building," Kingston, Ont.	S.C.R.	6 months from May 28, 1920.	$65 per month. (renewable)
"	28	Dominion Savings and Investment Society.	"	Lease of room No. 305 on 3rd floor of "Dominion Savings and Investment Society Building," London, Ont.	S. S. Board	From Mar. 2, 1920, to Dec. 2, 1920.	$25 per month.
"	29	The Executors Thistle Joint Estate.	"	Lease of store No. 204 on south side of Wellington st., Ottawa, Ont.	Gas and Electricity Br. (T. & C.).	12 months from May 1, 1920.	$50 per month.
"	29	Chas. R. Stephen and S. M. Geddes (Trustees of Stephen Estate).	"	Lease of 1st, 2nd, 3rd and 4th floors of "Stephen Building," north side of Queen st., Ottawa, Ont.	Seed Grain Staff, Int. Dept.	From June 6, 1920, to April 30, 1922.	$8,000 per ann. (renewable)
"	29	Cowichan Agricultural Society.	"	Lease of 3 rooms in "Old Agricultural Hall," Duncan, B.C.	M. & D.	1 year from May 20, 1920.	$100 per ann.
"	31	H. D. Bibby	"	Lease of 2,715 sq. ft. in brick building, Princess st., Kingston, Ont.	Taxation Officer, Fin. Dept.	5 years from April 1, 1920.	$1,500 per ann.
"	31	Dept. of Public Works	Soldiers Club	Lease of one room in building, Petrolia, Ont.	Soldiers Club	During pleasure from May 31, 1920.	$60 per annum.

The following item received too late for insertion in last year's Annual Report.

May	12, 1919	The Canada Life Assurance Company.	His Majesty	Lease of offices No. 31, 32, 41, 42, 43 and 44 in Co's. building on east side of Prince William st., St. John, N.B.	Board of Pension Commissioners of Canada.	1 year from May 1, 1919.	$1,300 per ann.
	1920.						
June	1	The Belleville Club, Ltd.	His Majesty	Lease of 2 offices on ground floor in building cor. of Bridge and Pinnacle sts., Belleville, Ont.	Weights and Measures, T. & C.	1 year from June 1, 1920.	$900 per ann.
"	1	Samuel E. King *et al.*	"	Lease of premises on ground floor and basement of 3 storey brick building, n.w. cor. St. Clair and Appleton Avenues, Toronto, Ont.	Postal Stn. "L"	5 years from date of completion of premises.	$2,100 per ann.
"	4	Wm. H. Burgoyne	"	Lease of 2nd floor rear section of "Standard Block," St. Catharines, Ont.	Voc. Branch, S.C.R.	3 months from Aug. 6, 1920.	$100 per m. (monthly tenancy).
"	5	The Harphill Building, Ltd.	"	Lease of "Harphill Building," with vault on 1st floor, Prince Albert, Sask.	S.S. Board	1 year from May 1, 1920.	$350 per m. (renewable)
"	7	The Estate of Mrs. D. E. Bowie.	"	Lease of rooms No. 213 and 214 on 2nd floor of "Coronation Building," No. 121 Bishop st., Montreal, Que.	S.C.R.	From April 10, 1920, to July 10, 1921.	$1,020 per ann. (renewable)
"	8	The Otis-Fensom Elevator Co., Ltd.	"	Lease of vacant lot extending from Davie st. to a parallel line 60 ft. south of wall of building, No. 1152 Mainland st., Vancouver, B.C.	Storage of non-perishable ordnance stores.	From May 1, 1920, to May 1, 1921.	$240 per ann.

STATEMENT No. 3.—Properties leased to and from the Department of Public Works of Canada, April 1, 1920, to March 31, 1921—*Continued*

Date of Lease.	Lessors.	Lessees.	Description of Property.	For what purpose.	Duration of Lease.	Rental.
1920 June 9	Lester H. Higgins	"	Lease of 2,356 sq. ft. on ground floor of new concrete garage, cor. Queen and Orange sts., Moncton, N.B.	Customs and Inland Revenue.	5 years from Aug. 1, 1920.	$2,400 per ann.
" 15	H. N. Bate & Sons Ltd	His Majesty	Lease of "Bate Building," Slater st., Ottawa, Ont.	Militia and Defence	1 year from June 15, 1920.	$1,800 per ana. (renewable)
" 16	His Majesty	Mrs. W. R. Foster.	Lease of one room in Public Building, Dartmouth, N.S.	Pres. of Red Cross	Month to month from June 8, 1920.	$12 per month. (monthly tenancy).
" 18	C. J. Booth	His Majesty	Lease of 2nd floor of "Standard Building," Ottawa, Ont.	Auditor General's Staff.	1 year from April 1, 1920.	$981.69 per an.
" 18	Yorkshire and Canadian Trust Ltd.	"	Lease of "Horse Show Building," on lots 8, 9, 10 and 11, Block 65, D.L. 185, Vancouver, B.C.	Canadian Militia	3 years from June 1, 1920.	$3,000 1st year $3,600 2nd year $4,200 3rd year
" 18	His Majesty	Arch. Campbell	Lease of parcel of land facing McIsaac Pond, Inverness, N.S.	Private enterprise	During pleasure.	$5 per annum.
" 18	"	Alex. McInnis	Lease of parcel of land facing McIsaac Pond, Inverness, N.S.	"	"	$5 per annum.
" 18	F. A. Blain	His Majesty	Lease of 640 sq. ft. in "Connaught Building," Saskatoon, Sask.	Legal Branch S.S. Board	1 year from May 15, 1920.	$71 per month.
" 21	His Majesty	Matthews & Scott Ltd.	Lease of parcel of land facing McIsaac Pond, Inverness, N.S.	Private enterprise	During pleasure.	$5 per annum.
" 21	"	The Ottawa Electric Co.	Lease of small reserve on Chaudiere Island, Ottawa, Ont.	"	21 years from Jan. 11, 1918.	$10 per annum.
" 21	Ottawa Building Co., Ltd.	His Majesty	Lease of premises composed of west half of lot 19, south side of Wellington st., Ottawa, Ont.	Interior Dept	1 year from June 1, 1920.	$2,560 per ann.
" 21	"	"	Lease of "Nagle Building," Wellington st., Ottawa, Ont.	Accommodation for Federal Government.	1 year from May 1, 1920.	$2,560 per ann.
" 23	Benjamin B. Hardwick	"	Lease of brick encased two-storey building, Annapolis Royal, N.S.	Temporary Customs and Post Office.	6 months from Mar. 17, 1920.	$660 per ann. (renewable)
" 24	His Majesty	John Grayson	Lease of piece of land 169 sq. ft., Moosejaw, Sask.	Private enterprise	21 years from June 24, 1920.	$5 per annum (renewable).
" 26	Empire Realty Company.	His Majesty	Lease of ground and 1st floors of building, No. 851 and 853, Fisquard st., Victoria, B.C.	Voc. Training Classes, S.C.R.	6 months from Aug. 1, 1920.	$175 per m.
" 28	His Majesty	The Pacific Cons. Co., Ltd.	Lease of tug *Point Hop*	Private enterprise	For 6 months from date tug is taken over at Vancouver, B.C., until returned to Vancouver, B.C.	$11 per day.

"	28	General Finance Corporation of Canada.	His Majesty	Lease of brick building No. 225½ on 22nd st., Saskatoon, Sask.	Militia and Defence	2 years from Jan. 6, 1920.	$175 per m.
"	28	Notre Dame Investment Co., Ltd.	"	Lease of room No. 306 in "Notre Dame Investment Building," Winnipeg, Man.	Asst. Dir. S.C.R.	1 year from July 15, 1920.	$576 per ann.
"	28	Northern British Columbia Development Co., Limited.	"	Lease of ground floor with rooms Nos. 1, 2, 3, 4, 8, 9, 15 and 16 on 1st floor and rooms No. 21 and 22 on 2nd floor of "Federal Block," Prince Rupert, B.C.	Several Depts. for Federal Government.	2 years from June 1, 1920.	$8,700 per ann.
"	29	H. B. Jefferson	"	Lease of room No. 12 in "Ross Block," Charlotte st., Sydney, N.S.	S.C.R.	From month to month from June 15, '20.	$20 per month. (monthly tenancy).
"	30	W. G. Edge, Limited	"	Lease of 470 sq. ft. in basement of "Motor Building," Sparks st., Ottawa, Ont.	National resources—Interior Dept.	From Aug. 1, '20, t .1, 1923.	$1,200 per ann.
July	1	Daniel Vincent Doyle	"	Lease of 2 large rooms in rear of building No. 27-29 Campbell st., Belleville, Ont.	Tax Officer, Finance Dept.	From July 1, 1920, to June 1, 1922.	$1,026.72 per annum (renewable).
"	2	McPherson & Fullerton Bros.	"	Lease of rooms No. 501 to 512 inclusive in "Central Building," Victoria, B.C.	S. S. Board	1 year from June 1, 1920.	$185 per m.
"	2	The Bank of Nova Scotia.	"	Lease of rooms No. 31 and 32 in "Bank of Nova Scotia Building," St. Catharines, Ont.	Insp. of Taxation	1 year from July 1, 1920.	$720 per ann.
"	5	Comox Agricultural and Industrial Association.	"	Lease of large hall and ante room, Courtnay, B.C.	Drill Hall	1 year from May 18, 1920.	$300 per ann.
"	5	James E. Roy	"	Lease of room No. 309 on 3rd floor of "Roy Building," cor. Barrington and Granville sts., Halifax, N.S.	Archivist	1 year from Jan. 1, 1920.	$300 per ann.
"	6	Jean Baptiste Duford	"	Lease of 1st and 2nd floors of "Duford Building," Rideau st., Ottawa, Ont.	R.C.M. Police	1 year from July 2, 1920.	$7,225 per ann. (renewable).
"	6	McPherson and Fullerton Bros.	"	Lease of 6th floor of "Central Building," Victoria, B.C.	S.C.R.	June 18, 1920 to April 18, 1921.	$200 per m.
"	8	John Campbell and Sarah Campbell.	"	Lease of ground floor of premises No. 81 south side of King st., London, Ont.	S.C.R.	2 years from Oct. 20, 1919.	$840 per ann.
"	8	Anglo-Canadian Association, Ltd.	"	Lease of rooms on 2nd floor of "Cuthbertson Block," Fort William, Ont.	S. S. Board	6 months from July 1, 1920.	$28 per month, renewable.
"	19	Enderton Investment Co., Ltd.	"	Lease of rooms Nos. 211 and 213 in "Enderton Block", Winnipeg, Man.	"	1 year from Aug. 1, 1920.	$70 per month.
"	21	R. L. Blackburn	"	Lease of 6th and 7th floors in "Plaza Building," Ottawa, Ont.	Insurance Department & Patriotic Fund.	2 years from July 1, 1920.	$7,600 per ann.
"	21	R. L. Blackburn	"	Lease of 5th floor in "Plaza Building," Ottawa, Ont.	B.C. Lands Branch, Interior Dept.	1 year from July 1, 1920.	$3,600 per ann.
"	21	R. L. Blackburn	"	Lease of 4th floor in "Plaza Building," Ottawa, Ont.	International Boundary Commission.	1 year from July 1, 1920.	$3,200 per ann.
"	22	A. W. Hawley	"	Lease of 2,042 sq. ft. in premises, Trenton, Ont.	Militia and Defence	5 years from April 1, 1920.	$300 per ann.
"	23	A. McMillan and Wm. Costain.	"	Lease of ground floor of 3-storey brick building, Toronto East, Ont.	Postal Station "H"	1 year from Oct. 1, 1920.	$100 per mon.
"	26	The Royal Bank of Canada.	"	Lease of whole of 4th floor and 1,000 sq. ft. of basement and 2 rooms on 2nd floor of "Royal Bank Building," Ottawa, Ont.	Geographers' Branch Interior Dept.	1 year from Mar. 18, 1920.	$4,842.04 per annum.

STATEMENT No. 3.—Properties leased to and from the Department of Public Works of Canada, April 1, 1920, to March 31, 1921—*Continued*

Date of Lease.	Lessors.	Lessees.	Description of Property.	For what purpose.	Duration of Lease.	Rental.
1920. July 26.....	The Royal Bank of Canada	His Majesty ..	Lease of 4,000 sq. ft. on 2nd floor and 1,319 sq. ft. on mezzanine floor of "Royal Bank Building," Ottawa, Ont.	Military Service Branch Auditor General's Dept., etc.	1 year from April 1, 1920.	$4,781.59 per annum.
" 26.....	" "	"	Lease of 3 rooms on top floor and vault in basement of "Royal Bank Building," Ottawa, Ont.	Consulting Engineer, Railways and Canals.	1 year from April 1, 1920.	$936.25 per annum.
" 26.....	" "	" ...	Lease of rooms Nos. 1, 2, 3, 4, 7, 8 and 9 on 3rd floor of "Royal Bank Building," Ottawa, Ont.	S. S. Board, etc.....	1 year from Mar. 18, 1920.	$2,354.70 per annum.
" 26.....	" "	"	Lease of 10 offices on 5th floor and portion of basement of "Royal Bank Building," Ottawa, Ont.	Interior Department...	1 year from April 7, 1920.	$3,143.13 per annum.
Aug. 1.....	Imperial Canadian Trust Co.	"	Lease of room No. 303 in "Canada Building," Saskatoon, Sask.	Res. Physician, S.C.R.	1 year from Aug. 1, 1920.	$53 per month.
" 2	The Royal Bank of Canada.	" ...	Lease of one room in basement of "Royal Bank Building," Ottawa, Ont.	Military Service Branch, Justice Dept.	From Aug. 1, 1920 to May 1, 1921.	$11.67 per m.
" 6.....	The Great War Veterans' Association.	"	Lease of 3 offices in "G.W.V. A. Building," Charlottetown, P.E.I.	Medical Branch S.C.R.	From July 15, 1920 to Mar. 1, 1921.	$34 per month.
" 16.....	The Royal Bank of Canada.	"	Lease of rooms Nos. 214 and 215 in "Royal Bank Building," London, Ont.	Medical treatment for soldiers.	1 year from Aug. 15, 1920.	$765 per ann.
" 16.....	James H. Thompson.....	"	Lease of 1,250 sq. ft. of ground floor of building fronting on 2nd avenue, Prince Rupert, B.C.	Customs examining warehouse.	3 years from Oct. 1, 1920.	$600 per ann.
" 16.....	Whitmore Bros., Ltd.....	"	Lease of building on lots Nos. 21, 22, 23 and 24, block 184, Regina, Sask.	Ordnance Depot, M. and D.	3½ years from May 1, 1920.	$400 per m. from May 1, 1920, to Nov. 1, 1920, and $600.00 per month from Nov. 1, 1920 to Nov. 1, 1923 (renewable).
" 17.....	Miss Gertrude B. Terrill..	"	Lease of portion of 1st floor and vault of 3 storey brick building on lot 59, Main street, Stanstead Plain, Que.	" "	1 year from Aug. 1, 1920.	$275 per ann. (renewable).

"	20	J. A. Hallier and The Royal Trust Co. (executors of estate of late H. Aldridge.)	"	Lease of all the ground floor of "Mortlake Block," Edmonton, Alta.	Post Office Dept.	From Dec. 1, 1920 to Jan. 1, 1921.	$450 per month
"	20	The Tribune Publishing Co., Ltd.	"	Lease of office suite No.506 on 5th storey of "Tribune Building," Winnipeg, Man.	Interior Dept.	1 year from Aug. 1, 1920.	$110 per month
"	20	R. H. McWilliams	"	Lease of 16 rooms in building, Owen Sound, Ont.	Headquarters 31st Grey Regiment.	3 years from Jan. 1, 1920.	$360 per ann.
"	20	The Ottawa Amateur Athletic Association.	"	Lease of building NW. corner of Elgin street and Laurier ave. W., Ottawa, Ont.	Militia and Defence	1 year from April 15, 1920.	$6,000 per ann.
"	20	His Majesty	School Board of town of Roberval.	Lease of "Immigration Building," Roberval, Que.	Classes for young girls	During pleasure from Sept. 1, 1920.	$15 per month.
"	23	Douglas Ralph Crichton (receiver for Woodcrafts, Ltd.)	His Majesty	Lease of ground floor of Nos. 308 and 314 and ground floor and upper floorof 318 of "Woodcrafts Building," Calgary, Alta.	Interior Dept.	From Oct. 1, 1920 to April 30, 1921.	$185 per month
"	26	The Canadian Pacific Railway Company.	"	Lease of addition to be erected to station, Regina, Sask.	Postal Station "A"	5 years from date of occupation.	$6,712.50 per annum.
"	27	John Schultz	"	Lease of 3 rooms on 2nd floor of "Schultz Building," Nos. 37 and 39, Dalhousie street, Brantford, Ont.	Soldiers' workshop	Aug. 1, 1920 to June 30, 1921.	$75 per month.
"	27	The Post Publishing Co., Ltd.	"	Lease of rooms 4a and 3 in "Post Building," Dorchester street, Sydney, N.S.	Inspector of Fisheries' Naval Service.	1 year from Oct. 1, 1920.	$36 per month.
"	27	The Tribune Publishing Co., Limited.	"	Lease of premises on 3rd floor in "Tribune Building," Winnipeg, Man.	Taxation Officer, Finance Dept.	From Feb. 1, 1920 to April 30, 1925.	$9,960 per ann.
Sept.	8	Georgina Burrows	"	Lease of room, also storage room, with vault in 3-storey brick building, corner Main street and 2nd avenue, Dauphin, Man.	Taxation Branch Finance Dept.	3 years from Aug. 1, 1920.	$15 per month.
"	8	Nicholas E. O'Connor	"	Lease of room No. 10 in "Golden Lion Block," Kingston, Ont.	Invalided Soldiers' Commission.	1 year from Oct. 1, 1920.	$35 per mon.
"	10	J. G. Butterworth	"	Lease of rooms Nos. 1 to 10 and vaults on 3rd floor of "Bank Street Chambers," Ottawa, Ont.	Staff of Griffenhagen	1 year from June 1, 1920.	$2,221.95 per annum.
"	10	Margaret Kingsmill	"	Lease of 10-room brick residence on Talbot street, London, Ont.	Veteraft shops, S.C.R.	1 year from July 1, 1920.	$1,200 per ann.
"	20	S. H., W. A., and H. L. P. Fleming.	"	Lease of "Fleming Home Property," Ottawa, Ont.	Convalescent Hospital for wounded or invalided soldiers.	From Nov. 1, 1919 to Dec. 31, 1920.	$3,600 per ann.
"	20	Imperial Canadian Trust	"	Lease of suites 601, 602, 606 and 607 in "Canada Building," Saskatoon, Sask.	Post Office Inspector	1 year from Sept. 20, 1920.	$2,754 per ann.
"	27	City of Charlottetown	"	Lease of one room in "Market Building," Charlottetown, P.E.I.	Publicity Agent (Immigration Dept.)	1 year from Aug. 14, 1920.	$300 per ann.
"	27	Great War Veterans' Association.	"	Lease of 4 rooms in "G.W.V.A. Building," Charlottetown, P.E.I.	S. C. Re-Establishment	7 months from Aug. 15, 1920.	$70 per month.

STATEMENT No. 3.—Properties leased to and from the Department of Public Works of Canada, April 1, 1920, to March 31, 1921—*Continued*

Date of Lease.	Lessors.	Lessees.	Description of Property.	For what purpose.	Duration of Lease.	Rental.
The following item was received too late for insertion in last year's Annual Report.						
Sept. 6, 1919..	The Royal Trust Co.....	His Majesty....	Lease of Ammunition Factory, corner of Esplanada avenue and Lannes street, Mile End (Montreal), Que.	Voc. Training Branch S.C.R.	2 years from Sept. 6, 1919.	$20,000 per an. (renewable
1920.						
Oct. 6.....	Wm. Warren and C. E. Sibbald.	His Majesty....	Lease of ground and upper floors of "Ford Garage," No. 307 Banff avenue, Banff, Alta.	Militia and Defence.....	1 year from Aug. 23, 1920.	$360 per ann.
" 20	D. J. Nesbitt, Sheriff...	"	Lease of ground floor of building on lot No. 39, Brighton, Ont.	Post Office.....	1 year from Sept. 4, 1920.	$376 per ann.
" 20.....	The Gray Dort Motors, Ltd.	"	Lease of 4 rooms, 2 lavatories and corridors in 2-storey brick building, corner Park and Centre streets, Chatham, Ont..	Militia and Defence....	3 years from Dec. 1, 1920.	$720 per ann.
" 21.....	Alex. Mullin.....	" ...	Lease of ground floor and basement of premises on SW. corner of Bloor and Markham streets, Toronto, Ont.	Postal Station "E".....	3 years from Aug. 1, 1920.	$2,400 per ann.
" 30.....	His Majesty.....	Brown Corporation.	Lease of two properties "Ile Caron and Ile St. Christophe (St. Maurice River), Que.	Lumber purposes only...	21 years from Nov. 21, 1920.	(Renewable).
Nov. 1	William Mayhew.....	His Majesty....	Lease of all the ground floor of a 2-storey brick building on south side of Main street, Huntsville, Que.	Post Office.....	5 years from Nov. 1, 1920.	$1,000 per ann.
" 1.....	The Corporation of City of Brockville.	"	Lease of two rooms in "City Building," Brockville, Ont.	Inspector of Gas and Electricity.	1 year from Sept. 18, 1920.	$15 per month.
" 1.....	Trustee Pension Fund (The Canadian Bank of Commerce.)	"	Lease of whole of 2nd floor of "Riggs Selman Building," Pender street, West Vancouver, B.C.	Recreation room 2nd Battalion.	11 months from Nov. 1, 1920.	$150 per month
" 6.....	Hon. A. L. Langmuan.....	"	Lease of Fairbanks-Morse Building on 8th avenue, Calgary, Alta.	Temporary Hospital S. C.R.	From Jan. 1, 1921 to July 1, 1921.	$900 per month and thereafter on month to month basis
" 15	Arch. Galbraith.....	"	Lease of ground floor of building Nos. 1-9 1st avenue east, Swift Current, Sask.	Dominion Lands, Interior Dept.	1 year from Nov. 17, 1920.	$175 per month
" 18.....	His Majesty.....	Mike Antoff....	Lease of NE. store and back entry ground floor of Williamson Block, Edmonton, Alta.	Confectionery store.....	From Oct. 1, 1920 to Feb. 28, 1923.	$150 per month

"	19	George William Lucas	His Majesty	Lease of ground floor and 900 sq. ft. of basement of building, No. 140 Danforth avenue, Toronto, Ont.	Postal Station "J"	5 years from Sept. 1, 1920.	$3,000 per ann.
"	25	The Imperial Canadian Trust Co.	"	Lease of suites 512 and 513 in "Canada Building," Saskatoon, Sask.	Supt. Railway Mail Service and staff.	1 year from Nov. 1, 1920.	$110.00 per m.
"	26	His Majesty	Board of Trustees of Prince Albert Protestant School Dist. No. 3.	Lease of "Old Land Titles Property" and brick building thereon erected, Prince Albert, Sask.	Additional school accomodation.	10 years from Sept. 1, 1920.	$15 per month.
"	26	"	Massachusetts-Halifax Health Comm.	Lease of piece of land at Dartmouth, N.S.	Health Centre	1 year from Nov. 26, 1920.	$600 per ann.
"	29	The Canadian Pacific Railway Company.	His Majesty	Lease of part of ground floor of baggage room Windsor street station, Montreal, Que.	Mail room	1 year from Nov. 1, 1920.	$350 per ann. (renewable).
"	29	J. K. Fisken	His Majesty	Lease of office No. 115 on 1st floor of Civic No. 28 Front st. east, Toronto, Ont.	Dist. Seed Instructor (Agriculture).	1 year from Nov. 15, 1920.	$35 per month
"	30	Dan Cappa	"	Lease of 8 rooms ,lavatory and corridor in 3-storey brick building, Water st., St. Mary's, Ont.	Militia and Defence	1 year from Oct. 15, 1920.	$780 per ann.
"	30	Canadian Bank of Commerce.	"	Lease of rooms No. 2 and 3 in "Canadian Bank of Commerce Building," with room in basement, Revelstoke, B.C.	Chief Ranger (Interior Dept.)	1 year from Dec. 16, 1920.	$40 per month.
Dec.	1	Adelia Louise Davis	"	Lease of property known as "Davis House," on n.w. cor. of Seaton and Thurlow sts., Vancouver, B.C.	Militia and Defence	3 years from Dec. 1, 1920.	$125 for 1st year. $150 for 2nd and 3rd year
"	1	H. V. H. Cawthra	"	Lease of parcel of land and premises No. 211 College st., Toronto, Ont.	Militia and Defence	3 years from Dec. 1, 1920.	$6,000 per an.
"	2	Robt. Moffatt	"	Lease of lots No. 23 and 24, block 106, Plan "C" and 2-storey frame building, No. 136 5th Ave. East, Calgary, Alta.	Storage of cars, etc., Int. Dept.	8 months from Oct. 1, 1920.	$50 per month. (monthly tenancy).
"	4	Alex. J. C. McDermott	"	Lease of 3-storey brick building, cor. Langley and Broughton sts., Victoria, B.C.	Examining Warehouse	1 year from Jan. 1, 1921.	$400 per m.
"	8	Business Properties Ltd	"	Lease of "Old Bishop Strachan School" and grounds, College st., Toronto, Ont.	Militia and Defence	5 years from Dec. 1, 1920.	$9,123 41 per annum.
"	9	Joshua Samuel Jacques	"	Lease of 2,300 sq. ft. on ground floor of property known as 92 McNab st., Hamilton, Ont.	Garage S.C.R	6 months from Nov. 1, 1920.	$100 per m. (renewable)
"	10	Thomas Culbert	"	Lease of portion of ground floor of "Culbert Block," Merrickville, Ont.	Post Office	1 year from Jan. 1, 1921.	$200 per ann.
"	14	His Majesty	W. Bourk & Co.	Lease of Immigration Hall and site thereof cor. Pacific Ave. and 5th st., Brandon, Man.	Private purposes	6 months from Oct. 20. 1920.	$25 per month.
"	14	James Alex. Yager	His Majesty	Lease of 2,075 sq. ft. of easterly portion of ground floor and 587 sq. ft. of easterly portion in basement of building on lots 18 and 19, block 50, Swift Current, Sask.	Post Office	1 year from Nov. 20, 1920.	$200 per m.
"	14	John Albert Short	"	Lease of property known as "220 Hampton st.," Winnipeg, Man.	Militia and Defence	1 year from Dec. 1, 1920.	$50 per month.

STATEMENT No. 3.—Properties leased to and from the Department of Public Works of Canada, April 1, 1920, to March 31, 1921—*Continued*

Date of Lease.	Lessors.	Lessees.	Description of Property.	For what purpose.	Duration of Lease.	Rental.
1920.						
Dec. 15	His Majesty	The Bell Telephone Co. of Canada.	Agreement *re* installation of new system of telephones for Government offices at Ottawa, Ont.		For period of 10 years.	
" 16	S. H., W. A. and H. P. Fleming.	His Majesty	Lease of "Fleming Home Property," Ottawa, Ont.	Convalescent Hospital for invalided or wounded soldiers.	6 months from Dec. 31, 1920	$300 per m.
" 16	Notre Dame Investment Co., Ltd.	"	Lease of offices 705 to 710 inclusive in "Notre Dame Investment Building," Notre Dame Ave. East, Winnipeg, Man.	Dist. Engineer P.W.D	1 year from Jan. 1, 1921.	$190 per m.
" 20	Dominion Life Assurance Co.	"	Lease of rooms No. 910 and 911 at rear portion of ground floor of "Westman Chambers," Regina, Sask.	Weights and Measures (T. and C.).	2 years from Nov. 1, 1920.	$1,200 per ann.
" 21	The Imperial Canadian Trust Co.	"	Lease of suite No. 514 in "Canada Building," Saskatoon, Sask.	Ry. Mail Service Post Office Dept.	1 year from Nov. 16, 1920.	$25 per month.
" 22	H. T. Warne	"	Lease of 2 rooms on 2nd floor of "Warne Building," Digby, N.S.	Insp. of Fisheries, Naval Service.	1 year from Nov. 1, 1920.	$200 per ann.
" 22	A. Belanger Ltd	"	Lease of building near "I.C.R." Station, Montmagny, Que.	Storing machine tools (P.W.D.).	1 year from Nov. 1, 1920.	$50 per ann.
" 28	Corinne Hamilton (wife of Louis Bertrand).	"	Lease of piece of land being part of lot 652, Ward 3, with building, thereon erected Hull, Que.	Militia and Defence	From Nov. 15, 1920 to May 1, 1922.	$75 per month to May 1, 1921 and $100 per month from May 1, 1921 to May 1, 1922.
" 29	Silas Alex. Ramsay	"	Lease of north store premises No. 606 on 2nd st., North Calgary, Alta.	Limb factory for Invalided Soldiers Com.	1 year from Dec. 5, 1920.	$900 per ann.
" 30	Sarah A. Batson	"	Lease one room on 1st floor of building Welchpool, Island of Campobello, N.B.	Inspector of Fisheries, Naval Service.	1 year from Nov. 1, 1920.	$120 per ann.
1921.						
Jan. 3	Sir Rodmond P. Roblin.	"	Lease of ground floor of building, No. 103 Osborne st., Winnipeg, Man.	Postal Stn. "C"	1 year from Feb. 1, 1921.	$150 per m.
" 3	Bawlf Securities Ltd	"	Lease of rooms No. 231, 233 and 237 on 3rd floor and offices 208 and 220 in "Chamber of Commerce Building," Winnipeg, Man.	Com. Water Power Br., Interior Dept.	1 year from Dec. 1, 1920.	$195 per m.
" 4	His Majesty	J. W. McConnell	Lease of certain building (stable and garage) in rear of residence known as "Braehead," Montreal, Que.	Garage and stable	1 year and 8½ months.	$480 per ann.

" 10	The City of Verdun	His Majesty	Lease of No. 2 Fire Station, Verdun, Que.	Machine Gun Qts. (M. and D.).	1 year from Dec. 8, 1920.	$1,000 per ann (renewable)
" 11	His Majesty	The Canada Lumber and Box Co., Ltd	Lease of rooms No. 24 and 25 on 3rd floor of "Lindsay Building," Quebec, Que.	Private purposes	From Dec. 7, 1920 to July 30, 1921.	$24.61 per m.
" 13	Patrick McCool	His Majesty	Lease of 2 large rooms in building on west side of Main st. and Klock Ave., North Bay, Ont.	Hydro Electric Survey.	1 year from Jan. 1, 1921.	$40 per month
" 15	A. A. Aubin	"	Lease of ground floor of brick building on west side of King st., Sturgeon Falls, Ont.	Post Office	2 years from Nov. 1, 1920.	$1,500 per ann. (renewable)
" 20	La Cie Champoux Ltee	"	Lease of portion of 1st floor in 2-storey frame building, facing on Front st., D'Israeli, Que.	Post Office	5 years from Sept. 1, 1920.	$360 per ann. (renewable)
" 21	The Tribune Publishing Co., Ltd.	"	Lease of room No. 410 on 4th floor of "Tribune Building," Winnipeg, Man.	Dir. of Publicity Information Bureau.	1 year from Jan. 6, 1921.	$1,200 per ann.
" 24	Notre Dame Investment Co., Ltd.	"	Lease of rooms No. 411, 412, 413 and 414 in "Notre Dame Investment Building," Winnipeg, Man.	Voc. Br. S.C.R.	1 year from Feb. 15, 1921.	$75 per month.
" 25	H. Albert Knight	"	Lease of premises being lots 1 to 8 inclusive, Block 195, with building on property excepted shed on lot 8, Regina, Sask.	Ordnance stores (M. & D.).	1 year from Oct. 1, 1920.	$356.66 per an.
" 25	Elizabeth Rogers	"	Lease of rooms No. 801 to 810 inclusive and adjoining waiting room on 8th floor of "Rogers Building," Vancouver, B.C.	Chief Insp. of Fisheries.	1 year from Feb. 1, 1921.	$285 per m.
" 28	Great War Veterans' Association.	"	Lease of whole of 3rd floor of "Bank of Montreal Building," on Thames st., Ingersoll, Ont.	Signal Corps	1 year from Nov. 1, 1920.	$108 per ann.
" 28	Union Bank of Canada	"	Lease of 1,050 sq. ft. in "Kerr" or "Union Bank Building," The Pas, Man.	Mining Records (Interior Dept.).	1 year from Feb. 1, 1921.	$50 per m.
" 29	James Henry Buchanan	"	Lease of rooms No. 1, 2, and 3 on ground floor of "Old Colborne Hotel," Goderich, Ont.	No. 4 Section No. 1, Signal Corps.	1 year from Jan. 1, 1921.	$360 per ann.

The following item was received too late for insertion in last year's Annual Report.

Jan., 1918	Wm. Jas. Southam	His Majesty	Lease of rooms No. 504, 505 and 506 in "Herald Building," Calgary, Alta.	Board of Pension Commissioner.	3 years from Feb. 15, 1918.	$780 per ann.
1921. Feb. 1	Mrs. Alice Maud Christie.	His Majesty	Lease of 2-storey frame building No. 204 Wilson st., Victoria West, B.C.	Married members P.P. C.L.I. (M. & D.).	1 year from Dec. 1, 1920.	$360 per ann.
" 2	McKenzie & Mann	"	Lease of ground floor and basement in 2-storey brick building on lot 11, block 49, Plan 2230, Swift Current, Sask.	Militia and Defence	1 year from Jan. 11, 1921.	$720 per ann. (renewable)
" 4	Oro Nathaniel Doherty	"	Lease of 1½-storey building with flat roof annex, Stellarton, N.S.	Militia and Defence	2 years from Dec. 1, 1920.	$35 per month
" 8	R. Keltie Jones and The Eastern Trust Co., executors of last will of E. J. Jones.	"	Lease of "Caverhill Hall," St. John, N.B.	Militia and Defence	1 year from Jan. 1, 1921.	$1,500 per ann.

STATEMENT No. 3.—Properties leased to and from the Department of Public Works of Canada, April 1, 1920, to March 31, 1921—*Continued*

Date of Lease.	Lessors.	Lessees.	Description of Property.	For what purpose.	Duration of Lease.	Rental.
1921. Feb. 9	His Majesty	James R. Gillis.	Lease of parcel of land on property facing McIsaac Pond, Inverness, N.S.	Wharf and fish house	During pleasure from Feb. 9, 1921.	$5 per annum.
" 10	Miss Susan Straker Donkin	His Majesty	Lease of 2 one-storey bungalows, No. 484 Head st. and 515 Gore st., Esquimalt, B.C.	Married members P.P. C.L.I. (M. & D.).	6 months from Nov. 18, 1920.	$15 per month. (monthly tenancy).
" 10	Miss Susan Straker Donkin	"	Lease of one bungalow No. 509 Gore st., Esquimalt, B.C.	Married members P.P. C.L.I. (M. & D.).	6 months from Nov. 18, 1920.	$15 per month (monthly tenancy).
" 14	The Regina Exhibition Board.	"	Lease of 23,500 sq. ft. in "Exhibition Building," Regina, Sask.	Storage of Ordnance vehicles (M. & D.).	From Nov. 15, 1920 to June 15, 1921.	$250 for whole period.
" 15	Patrick Labelle	"	Lease of whole of 1st and 2nd floors and 4,800 sup. ft. of basement in "Labelle Building," Ottawa, Ont.	Artillery stores (M. & D.).	3 years from Feb. 2, 1921.	$11,500 per an.
" 15	Patrick Labelle	"	Lease of 1,600 sq. ft. on ground floor and 456 sq. ft. of basement in "Labelle Building," Ottawa, Ont.	Survey Records and School Lands Branch, Interior Dept.	3 years from Feb. 2, 1921.	$3,000 per ann.
" 15	Patrick Labelle	"	Lease of "Garage Building," in rear of "Labelle Building," Ottawa, Ont.	Several branches of Fed. Govt.	3 years from Feb. 2, 1921.	$2,448 per ann.
" 17	Charles Wm. Frederick	His Majesty	Lease of ground floor of one storey frame building on lot 6, block 2, plan 4209, Peace River Crossing, Alta.	Post Office	3 years from Jan. 14, 1921.	$900 per ann.
" 21	Ottawa Building Co., Ltd.	"	Lease of building northeast corner of Metcalfe and Slater streets, Ottawa, Ont.	Reclamation Service, Interior Dept.	5 years from May 1, 1921.	$5,858.40 per annum.
" 23	Patrick Fournier	"	Lease of 3,590 sq. ft on top floor of 3-storey concrete block, corner Court and Canada streets, Edmundston, N.B.	Militia and Defence	1 year from Jan. 27, 1921.	$90 per month.
" 24	Army and Navy Veterans Association.	"	Lease of one storey frame building on west ½ of lot 10, block 2, plan "G," Rosetown, Sask.	" "	1 year from Jan. 1, 1921.	$300 per ann. (renewable).
" 28	Sun Life Assurance Co. of Canada.	"	Lease of part of ground floor of "Sun Life Building," Sherbrooke, Que.	S. S. Board	1 year from May 1, 1921.	$20 per month.
" 28	" "	"	Lease of part of ground floor of "Sun Life Building," Sherbrooke, Que.	"	1 year from May 1, 1921.	$900 per ann.
" 28	Wm. Jackson Hopwood, liquidator of Hopwoods, Limited.	"	Lease of 3 rooms on ground floor of premises No. 366 Water street, Peterborough, Ont.	Weights and Measures (T. and C.)	1 year from Jan. 1, 1921.	$300 per ann.
Mar. 2	The Executors Thistle Joint Estate.	"	Lease of store No. 204 on south side of Wellington street, Ottawa, Ont.	Gas and Electricity Branch (T. and C.)	1 year from May 1, 1921.	$50 per month.

"	2	Notre Dame Investment Co., Ltd.	"	Lease of west ½ of 4th floor of "Keewaydin Building," Winnipeg, Man.	S.C.R.	1 year from Jan. 1, 1921.	$2,100 per ann.
"	3	L. H. Levasseur, Registered.	"	Lease of part of 1st or ground floor of "Levasseur Block," Rivière du Loup Station, Que.	Post Office	1 year from May 1, 1921.	$600 per ann.
"	4	Le Conseil Municipal du Village de St. Eustache.	"	Lease of part of 1st floor of "Municipal Building," St. Eustache, Que.	"	3 years from Jan. 1, 1921.	$360 per ann.
"	4	Chester Thompson Co., Limited.	"	Lease of whole of 1st floor of "Thompson Building," Saskatoon, Sask.	Customs Dept.	1 year from Dec. 12, 1920.	$4,800 per ann.
"	5	Edmund Wood Clark	"	Lease of dwelling house and premises No. 12 west side of Emmett street and south of Lisgar street, Ottawa, Ont.	Militia and Defence	1 year from May 1, 1921.	$51 60 per m.
"	7	The Central Realties Co., Ltd.	"	Lease of brick fireproof building and vault on 1st floor of "Harphill Building," Prince Albert, Sask.	S. S. Board	6 months from May 1, 1921.	$350 per m.
"	7	Mrs. Odile Lavoie	"	Lease of portion of building, No. 116 Letourneux street, Maisonneuve, Que.	Postal Station "M"	1 year from May 1, 1921.	$720 per ann.
"	9	Wm. Alfred Bauer	"	Lease of rooms Nos. 508 to 512 inclusive and 3 vaults on 5th floor of "Pacific Building," Vancouver, B.C.	Geo. Survey Branch, Mines Department.	1 year from Dec. 25, 1920.	$180 per month
"	10	His Majesty	Delphis Lalonde	License to operate ferry across Ottawa river between Fassett and St. Thomas d'Alfred, Ont.		5 years from May 1, 1921.	$10 per annum.
"	10	The Estate of late Margaret Cowan.	His Majesty	Lease of building known as "Federal Building," on northeast corner of Sussex and Besserer streets, Ottawa, Ont.	Board of Pension Commissioners of Canada.	1 year from April 1, 1921.	$6,500 per ann.
"	10	MacLaren Hall Committee.	"	Lease of "MacLaren Hall Building," Sinclair street, Alexandria, Ont.	Post Office and Customs, etc.	6 months from Mar. 10, 1921.	$45 per month (renewable).
"	10	The Community of Sisters of Charity commonly called "Grey Nuns General Hospital."	"	Lease of ground floor and part of basement in one storey brick building, No. 23 Jeanne Mance street, Montreal, Que.	Militia and Defence	From May 1, 1921 to April 30, 1922.	$225 per m.
"	11	J. Hargrave and F. O. Sissons.	"	Lease of ground floor and basement in "Quebec Bank Building," Medicine Hat, Alta.	" "	1 year from Dec. 28, 1920.	$1,500 per ann.
"	12	Ottawa Building Co., Ltd.	"	Lease of "Nagle Building," Nos. 98-100 south side of Wellington street, Ottawa, Ont.	Office accommodation for Federal Government.	1 year from May 1, 1921.	$2,560 per ann.
"	14	Mills Brothers	"	Lease of 4th floor of "Imperial Building," Hamilton, Ont.	Inspector of Taxation, Finance Dept.	3 years from Dec. 1, 1920.	$350 per month (renewable).
"	14	John Fisken & Co.	"	Lease of room No. 114 on 1st floor of "Pacific Building," No. 23 Scott street, Toronto, Ont.	Grain Inspection Staff	1 year from April 15, 1921.	$55 per month.
"	15	Municipality of Collingwood.	"	Lease of 2 rooms in SE. corner of "Town Hall," Collingwood, Ont.	Militia and Defence	1 year from Mar. 1, 1921.	$120 per ann.
"	16	Thos. B. and D. J. Riley	"	Lease of one front room and two offices on 2nd floor, etc., of "Riley Building," Charlottetown, P.E.I.	S. S. Board	1 year from Mar. 1, 1921.	$900 per ann.
"	16	The Post Publishing Co., Ltd.	"	Lease of room No. 5 in "Post Building," Dorchester street, Sydney, N.S.	Sub-Agent Marine and Fisheries.	1 year from May 1, 1921.	$216 per ann.
"	18	Banque Hochelaga	"	Lease of ground floor of building, 1128 East Mount Royal street, Montreal, Que.	Delorimier Postal Station.	1 year from May 1, 1921.	$1,080 per ann.

STATEMENT No. 3.—Properties leased to and from the Department of Public Works of Canada, April 1, 1920, to March 31, 1921—*Continued*

Date of Lease.	Lessors.	Lessees.	Description of Property.	For what purpose.	Duration of Lease.	Rental.
1921. Mar. 18	Pheasey and Batson	His Majesty	Lease of 350 sq. ft. in rooms Nos. 201 and 202 on 1st floor of "Alexandra Block," Edmonton, Alta.	Weights and Measures	2 years from April 1, 1921.	$55 per month (renewable).
" 18	His Majesty	The Mead Investment Co.	Lease of strip of land fronting on turning basin, Fort William, Ont.	Private purposes	1st 3 years for balance of term	$2,812.50 and 3,750 (renewable).
" 19	J. Henry Peters	His Majesty	Lease of 4 floors and basement of Nos. 54 and 56 and 3rd and 4th floors of No. 52 on north side of Wellington street, Toronto, Ont.	Temporary Customs House.	2 years from Mar. 1, 1921.	$18,000 per an.
" 22	His Majesty	E. V. Dodge	Lease of post office property at Cardinal, Ont.	Private purposes	During pleasure from Mar. 22, 1921.	$24 per ann.
" 22	Fred. W. Scott	His Majesty	Lease of rooms Nos. 301, 302 and 303 in "Scott Block," Winnipeg, Man.	Chief Inspector Dominion Lands Agencies, Interior Dept.	From April 1, 1921 to Dec. 31, 1921.	$180 per m.
" 22	Arthur M. Fraser	"	Lease of rooms Nos. 204 and 205 in "Bon Accord Building," Winnipeg, Man.	S.C.R. Dept	1 year from April 1, 1921.	$140 per m.
" 22	Notre Dame Investment Co., Ltd.	"	Lease of room No. 305 in "Notre Dame Investment Building," Winnipeg, Man.	Dental Clinic S.C.R.	6 months from Feb. 15, 1921.	$75 per month (renewable).
" 26	Belgo-Canadian Realty Co., Ltd.	"	Lease of whole of 2nd floor of "Westmount Commercial Building," 1215 Greene ave., Westmount, Que.	Militia and Defence	1 year from May 1, 1921.	$1,500 per ann.
" 31	Bryson Realty Company, Ltd.	"	Lease of 4 floors above ground floor in "Bryson Building," 178 Queen street, Ottawa, Ont.	Dominion Parks Branch, Interior Dept.	5 years from April 25, 1921.	$9,240 per ann.

THE NATIONAL GALLERY OF CANADA

By Eric Brown, Director

Work on the reconstruction of the premises, which had been occupied by the House of Commons since February, 1916, was commenced early in the summer. The eastern door of the Victoria Memorial Museum building was made the main entrance to the National Gallery; the ground floor was arranged as a sculpture court, and the second, third and fourth floors were re-arranged so as to make some fifteen picture and print galleries. In order to give the National Gallery control of its own heating and ventilation, the east wing was separated from the rest of the museum building by means of fireproof partitions.

The work was pushed as rapidly as possible and plans were made for the reopening of the gallery in midwinter, but unfortunately, before the work could be completed, the appropriation was exhausted and it will not be possible, therefore, to open before the early autumn.

The appropriation made for the fiscal year was $20,000, which was expended as follows:—

Accessions	$11,866 00
Salaries and wages	2,941 00
General maintenance and extra expense incidental to reconstruction	5,175 26
Unexpended	17 74
	$20,000 00

The Canadian War Memorials' paintings and other works of art which have been in the custody of the National Gallery since the close of their exhibition tour were formally handed over to the Canadian Government by Lord Beaverbrook. Work will be commenced at once to renovate and restore them to good condition.

The loan exhibitions, which have been a feature of the work of the gallery for the past six years, were continued this year undiminished and with gratifying results. The following cities were served during the year:—

Kingston, Ont.—Queen's University (2 exhibitions).
Hamilton, Ont.—Art Gallery (13 pictures).
Collingwood, Ont.—The Public library (10 pictures).
Windsor, Ont.—The Public library (11 pictures).
Port Arthur, Ont.—The Public library (8 pictures).
Fort William, Ont.—The Public library (13 pictures).
Regina, Sask.—Regina College (17 pictures).
Winnipeg, Man.—The Art Gallery (21 pictures).
Moose Jaw, Sask.—The Public library (18 pictures).
Saskatoon, Sask.—Collegiate Institute (9 pictures).
Medicine Hat, Sask.—Public library (10 pictures).

As no issue of the catalogue has been made since 1915, a new edition was prepared this year and awaits the reopening of the galleries before being offered for general distribution.

The following additions were made during the year by gift or purchase:—

PURCHASES

Oil Paintings—

"Mary and Guido" .. by George Spencer Watson.
"Pastoral" .. " Maurice Greiffenhagen, A.R.A.
"Shacks" .. " Lawren Harris.
"Fire Swept, Algoma" .. " Francis H. Johnston, A.R.C.A.
"Night, Georgian Bay" .. " A. Y. Jackson, R.C.A.
"The Edge of the Wood" .. " F. Nicholas Loveroff, A.R.C.A.
"Maison de Cavelier de la Salle" .. " Georges Delfosse.
"The Day Turns Ghost" .. " W. M. Barnes.
"Fishermen, Lake Ontario" .. " Manly MacDonald, A.R.C.A.
"The Green Balloon" .. " Emily Coonan.
"Lake Traffic" .. " Peter C. Sheppard.
"The Last Gleam" .. " Fred S. Haines, A.R.C.A.
"Abraham Dismissing Hagar" .. " Le Nain.
"The Solemn Land" .. " J. E. H. MacDonald, A.R.C.A.
"Summer Evening" .. " W. J. Wood.
"John" .. " F. H. Varley.
"Dufferin Terrace" .. " Mary E. Wrinch.

Water Colours—

"A Water Baby" .. by Walter J. Phillips.

Prints, Etchings and Drawings—

7 Lithographs .. by Fitzgerald E. Spencer-Pryse.
2 Etchings .. " Mary Cassatt.
7 Drawings .. " Frank Brangwyn, R.A.
1 Silverpoint drawing .. " Leonard J. Smith.
16 Colour prints .. " Charles Bartlett.
4 Colour prints .. " Walter J. Phillips.
2 Colour aquatints .. " Fred S. Haines, A.R.C.A.
11 Colour prints .. " Mabel E. Royds.
3 " " .. " J. E. Platt.
1 " " .. " Hilda Porter.
8 " " .. " William Giles.
1 " " .. " A. M. Shrimpton.
1 " " .. " Dorothy Hutton.
1 " " .. " Ada L. Collier.
7 " " .. " Allan W. Seaby.
2 " " .. " Ethel Kirkpatrick.
2 " " .. " Janet Fisher.
4 " " .. " Robert Gibbings.
1 Etching and aquatint .. " E. L. Lawrenson.
1 Colour print .. " Amedee Joyau.
2 Drawings .. " I. Duncan.
6 Colour Etchings .. " Bernard de Monvel.
25 Etchings .. " Charles Henry White.

Sculpture—

"Son Meilleur Jouet" .. by Katherine E. Wallis.

DOMINION OF CANADA

ANNUAL REPORT

OF THE

DEPARTMENT OF RAILWAYS AND CANALS

For the Fiscal Year from April 1, 1920,
to March 31, 1921

Submitted in accordance with the provisions of the Revised Statutes of Canada, 1916; Chapter 35, Section 33

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1921

[No. 20—1922]

To His Excellency Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O., Governor General and Commander in Chief of the Dominion of Canada

MAY IT PLEASE YOUR EXCELLENCY:

The undersigned has the honour to present to Your Excellency the Annual Report of the Department of Railways and Canals, of the Dominion of Canada, for the fiscal year ending March 31, 1921.

J. D. REID,
Minister of Railways and Canals.

TABLE OF CONTENTS

PAGE

1. Report of the Deputy Minister..... 5
2. Annual Report of the Canadian Northern System..... 16
3. Annual Report of Canadian Government Railways..... 40
4. Annual Report of the Grand Trunk Pacific Railway..... 74
5. Report of the Committee of Management..... 81
6. Annual Report of Chief Engineer on state of Canals..... 82
7. Annual Report of Commissioner of Highways..... 91
8. Annual Report of Departmental Accountant..... 100
9. Statement respecting the Acquisition by the Government of the Grand Trunk and subsidiary properties 128
10. Award of the Board of Grand Trunk Arbitrators and reasons therefor..... 145

REPORT

OF THE

DEPUTY MINISTER OF RAILWAYS AND CANALS

FOR THE YEAR ENDING MARCH 31, 1921

To the Honourable J. D. Reid,
Minister of Railways and Canals.

Sir,—I have the honour to submit herewith the annual report of the Department of Railways and Canals. That portion of the report which deals with railways covers, in the case of the Canadian Northern and Grand Trunk Pacific, the calendar year ending December 31, 1920. The report of what are known as Canadian Government Railways (the Intercolonial, Transcontinental and branch lines) is for the nine months ending December 31, 1920. Heretofore, the Government railway year has been the usual departmental fiscal year ending March 31, but for uniformity of accounting and reporting a change has been made to the calendar year which is now the fiscal year of most railway companies. But while the actual report of the Canadian Government Railways (which should not be confused with the Canadian National Railways of which they form a part) covers a period of nine months only, the figures used for purposes of comparison are those relating to the twelve months of the calendar year.

The reports with respect to the canals of the Dominion, as well as the Departmental Accountant and the Commissioner of Highways, are for the federal fiscal year ending March 31, 1921.

As the report contains separate and complete statements concerning the operation of the Canadian Northern and Canadian Government Railways, which together form the Canadian National system, as well as a separate report on the operation of the Grand Trunk Pacific, which is being operated by the Canadian National management for the Minister of Railways, as receiver (but does not as yet form part of the Canadian National system), it will be of interest to present in this summary a combined statement as to the operation of the three systems in simple and easily comprehended form.

Mileage Operated

The total mileage operated by the Canadian National management in 1920 was 17,337.42, made up as follows:—

Canadian Northern Railway System		9,868·90	miles
Canadian Government Railways—			
Intercolonial Railway	1,670·58		
Prince Edward Island Railway	275·99		
Branch lines	275·22		
		2,221·79	"
Quebec and Saguenay Railway		92·71	"
St. John and Quebec Railway (leased)		172·71	"
Transcontinental Railway (including Lake Superior Branch)		2,006·58	"
Grand Trunk Pacific Railway		2,732·42	"
Hudson Bay Railway		243·	"
		17,337·47	"

During the year, the following mileage was added by purchase by the Government of Canada:—

Lotbinière and Megantic, placed in operation April 1, 1920..	29·59 miles
Caraquet and Gulf Shore Railway, placed in operation June 1, 1920..	80·01 "
Cape Breton Railway, placed in operation July 1, 1920..	30·64 "
Total mileage added by purchase during 1920..	140·24 "

Earnings, Expenditure and Deficit

The combined revenue of all roads operated by Canadian National management during 1920 (including Grand Trunk Pacific) was $125,141,752.31, as against $105,036,176.37 in 1919. The operating expenses, however, increased from $125,349,797.02 in 1919 to $162,484.722.48 in 1920. Thus the operating deficit increased from $20,313.620.65 in 1919 to $36,842,970.17 in 1920. To this operating deficit must be added interest charges which could not be met out of operation, but had to be paid. These fixed charges made the total deficit for 1920 $70,495,702.45, as compared with $49,004,545.46 in 1919. How these bulk figures are allocated is shown by the following statement:—

GROSS EARNINGS

	1920	1919
Canadian Northern System..	$66,695,398.80	$53,562,177.57
Canadian Government..	44,537,803.85	40,179,380.93
Grand Trunk Pacific..	14,408,549.66	11,294,617.87
	$125,141,752.31	$105,036,176.37

OPERATING EXPENSES

Canadian Northern System..	$82,953,978.60	$60,034,023.92
Canadian Government..	54,987,680.28	47,728,205.73
Grand Trunk Pacific..	24,543,063.60	17,587,567.37
	$162,484,722.48	$125,349,797.02

OPERATING DEFICIT

Canadian Northern System..	$16,258,579.80	$6,471,846.35
Canadian Government..	10,449,876.43	7,548,824.80
Grand Trunk Pacific..	10,134,513.94	6,292,949.50
	$36,842,970.17	$20,313,620.65

FIXED CHARGES

Canadian Northern—		
Due public..	$13,933,695.36	$13,030,336.68
Interest due Government..	10,326,260.69	6,939,373.68
Grand Trunk Pacific—		
Due public..	6,048,950.60	6,048,950.00
Interest due Government..	2,475,474.00	2,460,088.40
Interest on Receiver's certificates for 1920	808,351.63	212,176.05
	$33,652,732.28	$28,690,925.41

TOTAL DEFICIT

(Operating and Fixed Charges)

Canadian Northern System..	$40,578,535.85	$26,441,556.71
Canadian Government..	10,449,876.43	7,548,824.80
Grand Trunk Pacific..	19,467,290.17	15,014,163.95
	$70,495,702.45	$49,004,545.46

Deficit of Individual Lines

The total operating deficit of $36,842,970.17 for the twelve months' period was made up as follows:—

Canadian Northern Railway		$16,258,579.80
Canadian Goverment Railways—		
Intercolonial Railway	$6,549,629.48	
Prince Edward Island Railway	729,772.16	
Transcontinental	2,780,359.46	
Moncton and Buctouche Railway	43,800.68	
Elgin and Havelock Railway	47,518.25	
St. Martin's Railway	60,305.39	
York and Carleton Railway	21,317.39	
Salisbury and Albert	88,033.60	
Lotbinière and Mégantic	20,413.49	
Caraquet and Gulf Shore Railway	29,329.87	
Cape Breton Railway	14,621.65	
Quebec and Saguenay Railway	13,189.84	
Hudson Bay Railway	51,585.17	
		10,449,876.43
Grand Trunk Pacific Railway		10,134,513.94
Total operating deficit		$36,842,970.17

Operating Results Canadian National System

(Not including G.T.P.)

Although there was an increase of 445,234 in the number of passengers carried, the average haul per passenger decreased from 71.24 to 59.51 miles, and the receipts from passenger service were $21,092,253.10, or $745,491.37 less than the previous year, when there was a considerable movement of troops returning from overseas.

The increase in revenue was $17,491,644.15, which was largely made up of increased freight earnings, which in themselves amounted to $17,038,569.05, an increase of 26.98 per cent. The system handled 12,859,955 tons of freight, an increase of 1,660,530 over 1919, or 14.83 per cent. There was a slight decrease in the average haul per ton, which was 292.64 miles, as compared with 295.45 the previous year.

The following is a comparative summary of the operating results of the Canadian National system for the twelve months' period ending December 31, 1920:—

——	1920	1919	Increase	Increase
				%
Operating Revenue—				
Canadian Northern Railway	66,695,398 80	53,562,177 57	13,133,221 23	24·52
Canadian Government Railways	44,537,803 85	40,179,380 93	4,358,422 92	10·84
Canadian National Railways	111,233,202 65	93,741,558 50	17,491,644 15	18·66
Distribution—				
Passenger	21,092,253 10	21,837,744 47	−745,491 37	−3·41
Freight	80,193,342 44	63,154,773 39	17,038,569 05	26·98
Other	9,947,607 11	8,749,040 64	1,198,566 47	13·70
Operating expenses—				
Canadian Northern Railway	82,953,978 60	60,034,023 92	22,919,954 68	38·18
Canadian Government Railways	54,987,680 28	47,728,205 73	7,259,474 55	11·86
Canadian National Railways	137,941,658 88	107,762,229 65	30,179,429 23	28·00

OPERATING RESULTS, CANADIAN NATIONAL SYSTEM—*Concluded.*

——	1920	1919	Increase	Increase
Distribution—				
Maintenance of Way and Structures	34,759,329 17	28,476,450 66	6,282,878 51	22·06
Maintenance of Equipment	27,963,511 21	19,950,409 17	8,013,102 04	40·15
Traffic	2,140,576,09	1,478,372 41	662,203 68	44·79
Transportation—Rail	68,146,727 31	52,914,891 80	15,231,835 51	28·78
Transportation—Water	348,553 63	782,316 69	−433,763 06	−55·45
Miscellaneous	2,320,234 54	1,877,168 08	443,066 46	23·60
General	2,965,769 87	2,282,620 84	683,149 03	29·92
Trans. of Cap. Acct. Material (Cr.)	703,042 94	.....	703,042 94	
Operating Ratios—				
Canadian Northern Railway	124·38	112·08	12·30	10·97
Canadian Government Railways	123·46	118·79	4·67	3·93
Canadian National Railways	124·01	114·96	9·05	7·87
Operating Deficit—				
Canadian Northern Railway	16,258,579 80	6,471,846 35	9,786,733 45	151·22
Canadian Government Railways	10,449,876 43	7,548,824 80	2,901,051 63	38·43
Canadian National Railways	26,708,456 23	14,020,671 15	12,687,785 08	90·49
Average Mileage Operated—				
Steam	13,854·9	13,602·5	252·4	1·86
Electric	126·2	126·2		
Total	13,981·1	13,728·7	252·4	1·84
Revenue Train Miles	33,127,889	29,633,398	3,494,491	11·79
Earnings per R.T.M	3·30	3·09	0·21	6·79
Expenses per R.T.M	4·11	3·57	0·54	15·13
Net Earnings per R.T.M (Water Lines Excluded)	0·81	0·48	−0·33	−68·75
Operating Deficit	26,708,456 23	14 020,671 15	12,687,785 08	90·49
Canadian Government Rentals	567,240 00	697,344 22	−130,104 22	−18·66
Miscellaneous Income (Credit)	1,585,061 68	1,255,143 15	329,918 53	26·28
Deficit—St. John and Quebec	346,015 49	187,269 97	158,745 50	84·77
Net Deficit, excluding Canadian Northern fixed charges and Miscellaneous income	26,036,650 04	13,650,142 19	12,386,507 85	90·74

As will be seen from the foregoing, operating expenses increased from $107,762,229.65 in 1919, to $137,941,658.88 in 1920, an advance of $30,179,429.23, or 28 per cent. Half of this increase, more than fifteen million dollars, was due to increased cost of transportation, in which wages figured largely. There was also an increase of more than six millions in maintenance of ways and structures and of more than eight millions in the maintenance of equipment. In the latter cases, the increase was due to high material costs, as well as increased wages. In addition, there were 3,234 more employees on the pay roll.

AVERAGE NUMBER OF EMPLOYEES.

——	1920	1919	Increase or Decrease	%
Canadian Government	23,849	24,057	−208	−0·86
Canadian Northern	33,654	30,212	3,442	11·39
Canadian National	57,503	54,269	3,234	5·96

Wage Increase

Due to the adoption of Award No. 2 of the United States Labour Board in September, 1920, new rates of pay become effective as of May, 1920, involving four months back time. The rates for individual classes, however, could not in many cases actually be made effective until November and December, so that in effect the back-time payments involved seven and eight months' increases. The amount and distribution of these increases is shown in the two following tables, while the third shows the very great advance of wages paid in 1920, as contrasted with 1917. It does not tell the complete story, however, as the rates shown are schedule rates only and do not include allowances or overtime, which bulk so largely in the cost of transportation:—

COMPARISON OF PAYROLL, TWELVE MONTHS ENDED DECEMBER 31, 1920
Including Betterments

——	1920	1919	Increase	%
	$ cts.	$ cts.	$ cts.	
Canadian Government	37,103,129 97	31,855,264 61	5,247,865 36	16·47
Canadian Northern	54,973,613 24	43,366,183 65	11,607,429 59	26·76
Canadian National	92,076,743 21	75,221,448 26	16,855,294 95	22·40

EXPLANATION OF INCREASE

——	Canadian Government	Canadian Northern	Total	%
	$ cts.	$ cts.	$ cts.	
Due to adoption of United States Labour Board Award No. 2	5,013,700 00	7,759,500 00	12,773,200 00	16·98
Betterments, Deferred Maintenance and Increased Services	50,537 33	3,549,292 35	3,599,829 68	4·79
Wages paid in 1920, properly chargeable to 1919	183,628 03	298,637 24	482,265 27	0·64
Total	5,247,868 36	11,607,429 59	16,855,294 95	22·41

STATEMENT SHOWING INCREASES IN RATES OF PAY FOR VARIOUS CLASSES OF EMPLOYEES

Class of Employee	Basis of Rate	1917	1918	1919	1920	Per Cent Increase		
						1918 over 1917	1919 over 1917	1920 over 1917
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.		
Sectionman	Per Hour	0 19	0 40	0 40	0 48½	31·6	110·53	155·26
Machinist	"	0 37	0 68	0 68	0 85	83·8	83·8	129·7
Agent-Telegrapher	Per Month	66 00	85 00	111 00	125 00	28·8	68·2	89·4
Conductor—Passenger	Per 100 Miles	2 90	3 35	4 00	4 67	12·1	37·9	61·0
" Freight	"	4 00	4 82	5 40	6 44	20·5	35·0	
Brakeman—Passenger	"	1 60	2 23	2 66	3 33	39·4	66·2	108·1
" Freight	"	2 67	3 72	4 08	5 12	39·3	52·8	91·8
Engineer—Passenger	"	4 11	4 57	5 60	6 40	11·2	36·2	55·7
" Freight	"	4 53	5 23	6 08	7 12	15·4	34·2	59·4
Fireman—Passenger	"	2 50	3 15	4 00	4 80	26·0	60·0	92·0
" Freight	"	2 85	3 69	4 24	5 28	29·4	48·8	85·3

The above are schedule rates and do not include Allowances or overtime.

Cost of Material and Supplies

Out of every dollar earned by the National System 75 cents went to pay wages and 20 cents went for fuel, leaving only 5 cents to meet the cost of other material, as well as miscellaneous expenses, which together amounted to 29 cents. Coal cost $3.65 per ton in 1916, $4.45 in 1917, $6 in 1918, $6.20 in 1919, and $7.40 in 1920. The increase in 1920 as compared with 1919 added over five million dollars to the railway's fuel bill:—

COAL

——	1920	1919	Increase
Number of tons	3,066,344	2,800,383	265,961
Average price	$7 40	$6 20	$1 20
Increased expense on account of extra fuel	265,961 at $7 40	.....	$1,968,111 40
Increased expense on account of increase in price	2,800,383 at $1 20	.....	3,360,459 60
			$5,328,571 00

Similarly, railway ties which cost 51.06 cents in 1916 cost 83.40 cents in 1919 and 91.60 cents in 1920. The last increase added $312,798.90 to the railway's tie bill for 1920. Forty-two of the principal materials required by the railway increased on an average 138 per cent between 1914 and 1920.

Summary of Equipment

Notwithstanding the heavy cost of equipment, which in many cases was more than double that prevailing in 1914, it was necessary to order largely for 1920 delivery. These purchases amounted to $22,058,272 on Canadian National account, $5,243,925 on Grand Trunk Pacific account, and $16,133,795.75 on account of the Grand Trunk Railway.

The equipment in use on the Canadian National and Grand Trunk Pacific at the end of 1920, compared with the previous year, was as follows:—

	Dec. 31, 1919	Dec. 31, 1920
Locomotives—		
Canadian Northern	850	906
Canadian Government	767	767
Grand Trunk Pacific	259	281
Total	1,876	1,954
Sleeping and Dining Cars—		
Canadian Northern	114	155
Canadian Government	106	100
Grand Trunk Pacific	52	52
Total	272	307
Passenger Coaches—		
Canadian Northern	741	763
Canadian Government	416	389
Grand Trunk Pacific	182	181
Total	1,339	1,333

Baggage, Mail and Express Cars—		
Canadian Northern	227	250
Canadian Government	168	198
Grand Trunk Pacific	121	121
Total	516	569
Business Cars—		
Canadian Northern	26	25
Canadian Government	27	27
Grand Trunk Pacific	..	..
Total	53	52
Freight, Refrigerator and Stock Cars—		
Canadian Northern	37,457	40,660
Canadian Government	27,153	27,129
Grand Trunk Pacific	15,098	15,445
Total	79,708	83,234
Conductor's Vans—		
Canadian Northern	438	552
Canadian Government	414	414
Grand Trunk Pacific	136	135
Total	988	1,101
Instruction, Boarding, Tool and Auxiliary Cars; Steam Shovels and Snow Equipment—		
Canadian Northern	1,775	1,959
Canadian Government	818	845
Grand Trunk Pacific	492	519
Total	3,085	3,323
Total locomotives	1,876	1,954
Total cars	85,961	89,919

Grand Trunk Pacific Operation

The operation of the Grand Trunk Pacific Railway during 1920 forms the subject of a separate statement by Canadian National management which will be found among the contents of this report. Following it is a summarized report of the Committee of Management which was appointed to co-ordinate the operation of the Grand Trunk and Canadian National Railways. During the period of its activity this committee effected economies estimated to result in a saving per annum of $1,778,826.

Commissioner of Highways

Attached to the report of the Commissioner of Highways is a statement showing the number and location of projects for which agreements have been entered into between the Dominion Government and the various provinces, giving the mileage, total estimated cost, average cost per mile and the amount of Federal appropriation of each project, for the fiscal year ending March 31, 1921. Up to the close of the fiscal year no project statements had been received for New Brunswick, Manitoba and Alberta, but during April and May project statements covering practically the whole of the appropriation allotted to New Brunswick and Manitoba were approved and agreements entered into.

General programme plans were filed by all the provinces, showing the mileage and the estimated cost of road improvement in each. These figures are given below,

together with the amount of Federal aid which may be earned within the five years embraced by the Act:—

Province	Mileage	Total Estimated Cost	Amount of Federal Appropriation to which each Province is entitled
		$	$
Prince Edward Island	850	850,000	603,455
Nova Scotia	1,297	12,493,700	1,468,720
New Brunswick	1,595	2,914,612	1,163,845
Quebec	1,433	17,390,000	4,748,420
Ontario	1,824	22,200,000	5,877,275
Manitoba	4,000	6,602,265	1,602,265
Saskatchewan	2,500	5,329,500	1,806,255
Alberta	2,475	3,694,525	1,477,810
British Columbia	1,977	10,015,650	1,251,955
	17,951	81,489,652	20,000,000

Statement of Departmental Accountant

The statement of the accountant shows a grand total expenditure by the department of $1,210,358,992.83 to March 31, 1921. This is divided as follows:—

EXPENDITURE

Grand total expenditure on railways	$959,420,074.47
Grand total expenditure on canals	187,000,973.60
Common to both railways and canals	23,937,944.76
Grand total	$1,210,358,992.83

REVENUE

Grand total revenue from railways	$391,866,392.09
Grand total revenue from canals	18,275,998.15
	$410,142,390.24

The expenditure for the year includes the following principal items: Canadian Government Railways (working expenses), $43,770,971.10, (capital) $5,588,469.73; railway equipment, $15,543,373.46; purchase of railways, $731,018.35; Welland ship canal, $5,070,297.57; Trent canal, $379,664.11; canals (general), $3,034,155.64; acquisition of Grand Trunk Railway, $799,941.02; Canada Highways Act, $535,000.97.

Revenue received from Government railways (Intercolonial and branch lines and Transcontinental) amounted to $36,814,349.70, and from canals $366,010.69. No tolls are charged on the canals and this revenue consisted mainly of water-power and other leases, wharfage and elevator charges. During the year $1,222,953.14 was realized from the sale to the Canadian Government Merchant Marine of the steamers *Sheba, Drummond* and *McKee*, which had been in the service of the Hudson Bay and Intercolonial Railways.

Tabulated statements included in the accountant's report show the total amount which the various public works undertaken by the department have cost to date, as well as the amount expended each year since Confederation.

There were no payments during the year on account of railway subsidies.

Acquisition of Grand Trunk and Subsidiary Concerns

With this report is published a statement of the events and circumstances leading up to the acquisition by the Government of the Grand Trunk and its subsidiaries. This compilation is a summary of the various Acts of Parliament, agreements, correspondence and official statements in the House of Commons with respect to the construction of the Grand Trunk Pacific and Transcontinental and subsequent difficulties of the Grand Trunk. An effort has been made to reduce to orderly form the mass of departmental and other records so that there would be available a narrative, in logical sequence, of the events leading up to the acquisition of the properties in question. To this has been appended a copy of the award of the arbitrators and reasons therefor.

The acquisition of the Grand Trunk and Grand Trunk Pacific means that more than 50 per cent of the railways in Canada are now under Government operation and control, and in this connection the following consolidated figures will be of interest:—

MILEAGE

	Miles
Canadian Northern System (Canadian lines)	9,652·6
(Including American mileage, 9,868·9)	
Canadian Government Railways	2,314·50
St. John and Quebec (leased)	172·07
Hudson Bay Railway (mileage under operation)	243·
Transcontinental Railway (including Lake Superior branch)	2,006·58
Grand Trunk Pacific and branch lines	2,732·42
Grand Trunk Railway (Canadian lines)	3,611·68
(Including American lines, 4,775·57)	
Total—Canadian lines	20,732·85
Including American lines	22,113·04

AVERAGE NUMBER OF EMPLOYEES, 1920

Canadian Government	23,849
Canadian Northern	33,654
Grand Trunk (Canadian lines)	31,686
(Including American lines, 44,055)	
Grand Trunk Pacific	7,685
Total	96,874
(Including G.T.R. American lines)	109,243

COMPENSATION, 1920

Canadian National pay-roll	$95,727,117
Grand Trunk (in Canada)	53,375,736
(Including American lines, $75,696,365)	
Grand Trunk Pacific	13,075,444
Total	$162,178,297
(Including G.T.R. American lines)	184,498,926

REVENUE TONS OF FREIGHT CARRIED, 1920

Canadian Government	$12,859,955
Canadian Northern	14,504,796
Grand Trunk (in Canada)	26,322,423
(Including American lines, $33,026,658)	
Grand Trunk Pacific	2,853,116
Total	$56,540,290
(Including Grand Trunk American lines)	63,244,525

PASSENGERS CARRIED, 1920

Canadian Government	7,266,749
Canadian Northern	5,648,352
Grand Trunk (in Canada)	12,206,977
(Including American lines, 14,378,416)	
Grand Trunk Pacific	824,732
Total	25,946,810
(Including Grand Trunk American lines)	28,118,249

EQUIPMENT

Locomotives—	
Canadian National	1,673
Grand Trunk	1,425
Grand Trunk Pacific	281
Total	3,379
Passenger train cars—	
Canadian National	1,807
Grand Trunk	1,074
Grand Trunk Pacific	354
Total	3,235
Freight train cars—	
Canadian National	68,755
Grand Trunk	42,686
Grand Trunk Pacific	15,580
Total	127,021
Work cars—	
Canadian National	2,804
Grand Trunk	2,449
Grand Trunk Pacific	519
Total	5,772
Total locomotives	3,379
Total cars	136,028

INCOME ACCOUNT

GRAND TRUNK RAILWAY SYSTEM, INCLUDING CENTRAL VERMONT RAILWAY

	1919	1920
Railway operating revenues	$68,687,728.47	$113,223,934 52
Railway operating expenses	60,687,947.92	108,884,828.58
Net revenue from railway operations	$ 7,999,780.55	$ 4,339,105.94
Railway tax accruals	1,202,908.37	2,314,344.59
Uncollectible railway revenues	7,413.23	26,188.01
Total operating income	$ 6,789,458.95	$ 1,998,573.31
Non-operating income	8,829,390.56	14,444,539.17
Gross income	$15,618,849.51	$ 16,443,112.51
Deduct interest on funded debt	$11,642,337.37	$ 12,542,824.57
Rental and other charges against income	3,693,546.96	8,924,434.87
Total deductions from gross income	$15,335,884.33	$ 21,467,259.44
Net income	$ 282,965.18	— $ 5,024,146.93
Dividend on guaranteed stock	.....	— 1,482,812.50
Profit and loss items	— 378,652.89	+ 56,304.79
Deficit	— $ 95,687.71	— $ 6,450,654.64

Report of Chief Engineer of State of Canals

The report of the chief engineer contains a concise summary of the canal system of the Dominion and a statement of events of importance connected with operation during the 1920 season. In several instances lock gates were carried away or damaged by contact with vessels locking through. Four of these mishaps occurred on the Welland, two on the Cornwall and one on the Farran's Point canal. These caused delays ranging from a few to thirty-three hours.

The Port Colborne elevator, which was badly damaged by explosion in August, 1919, resumed operation in September, 1920, in time to handle 4,489,826 bushels of grain before the close of navigation.

During the fiscal year, work was continued on sections 1, 2, 3 and 5 of the Welland Ship canal. The operations were carried on by the department on force account pending the reletting of contracts which were annulled during the war. Difficulty was experienced in getting an adequate supply of cement. After work was commenced on section 3, traffic on the construction railway became fairly heavy, as many as seventy-one trains being handled over the line in a single day.

There was a slight increase in passenger traffic through the Canadian canal at Sault Ste. Marie, but a falling-off of 40 per cent in the freight tonnage. However, the freight tonage of Canadian vessels passing through both American and Canadian canals increased by 6 per cent.

The Trent canal is in operation from Trenton to Washago at the head of lake Couchiching, 203·6 miles, with a branch to Lindsay, 30 miles, and various other channels, aggregating in all about 300 miles. The portion of the canal under construction lies between Washago and Honey Harbour and Port Severn on Georgian bay, and is known as the Severn division. It is now possible for motor launches to pass from lake Ontario to Georgian bay and vice versa, by the use of two inclined marine railways at Big Chute and Swifts rapids. This trip is becoming very popular with motorboat tourists.

Compilation of data bearing on the possible enlargement of the St. Lawrence canal system has been continued by the engineers of the department and tentative plans have been evolved for a comprehensive development of the upper section of the river. These will form the basis for a joint engineering report to the International Joint Commission, to whom the question of the St. Lawrence canals enlargement has been referred by the Governments of Canada and the United States.

Your obedient servant,

G. A. BELL,
Deputy Minister.

September 14, 1921.

CANADIAN NORTHERN RAILWAY SYSTEM

The Sixth Annual Report of the directors of the Canadian Northern Railway System, covering the operations of the road for the year ended December 31, 1920, is submitted by President D. B. Hanna, as follows:—

Gross earnings—		
From passenger traffic..	$12,694,846 83	
From freight traffic..	49,049,946 83	
From express, mail and telegraphs..	2,193,065 67	
Miscellaneous earnings..	2,757,539 47	
	$66,695,398 80	
Interest and profits from elevator and other subsidiary companies, investments, etc..	1,845,994 62	
		$68,541,393 42
Working expenses..	$82,953,978 60	
Hire of equipment, taxes, rentals and miscellaneous charges..	1,311,289 65	
		$84,265,268 25
Deficit..		$15,723,874 83
Interest charges..		24,319,956 05
Total deficit..		$40,043,830 88

MILEAGE

The total mileage operated at the end of the year was 9,868·9, being an increase of 183·2 over the previous year. The average mileage operated throughout the year was 9,788·0 miles.

OPERATING REVENUES

The total increase in operating revenues was $13,133,221.23, made up as follows:—

Freight traffic increased by..	$9,874,394.74	or by 25.20%
Passenger " " "	1,919,138.37	or by 17.81%
Other " " "	1,339,688.12	or by 37.10%

The above increases are due partly to additional traffic and partly to the freight and passanger rate increases which were made effective September 13, 1920.

TRAFFIC MOVEMENT

Freight tonnage increased by 2,065,097 tons, which is an increase of 16·6 per cent. The comparative statement of freight carried shows substantial increases in grains, coal and forest products, also in building material and manufactured goods.

It is worthy of note that the grain handled during the calendar year 1920 exceeded by 2,581,392 bushels the movement for the twelve months ended June 30, 1916, which included the record crop of 1915. The yield per acre was not so high as in that year, and the crop figures therefore show that the grain was produced from greater acreage. The yield was heavier and the acreage greater in the grain sections

further west to an extent that the average haul on grain shipments over your lines from the Prairies to the lake terminals increased by 212 miles, viz., from 660 to 872 miles, an increase of 32 per cent. This increased haulage, together with the greater tonnage to be moved, taxed the joint facilities of the co-ordinated railways to the limit during the rush period. The lines of the Grand Trunk Pacific Railway, which were taken over for operation on September 1, were worked in complete co-operation for the grain movement. With practically the same rolling stock available in the autumn months as the two lines had separately last year, yet due to the co-ordination of all facilities, a substantial increase was obtained in ton mile movement.

The intensity of the transportation service required from your Western System during the autumn was heightened by the large eastbound movement of coal, which took place during the grain handling months. Coal traffic in actual tonnage handled, increased by 21 per cent, but, due to the wider distribution of coal from the Alberta fields replacing Pennsylvania coal, the ton mile movement was considerably higher than the straight tonnage increase would indicate, and the movement was in the same direction, as the grain instead of in the opposite direction. Receipts of western coal at Winnipeg showed an increase of over 50 per cent. The increase in shipments from the Alberta coal fields was over 21,000 carloads.

As further evidence of the wider distribution of coal from the Alberta fields, it may be stated that over 5,000 tons moved to Vancouver (and over 25,000 tons to Prince Rupert, via G.T.P.), both new movements, as these points had previously obtained Pacific coast coal.

Such a large tonnage has developed in pulpwood and paper, wood-pulp, etc., that these items are now being separately classified. Merchandise and miscellaneous traffic, which in 1919 included paper and wood-pulp, show a substantial increase. The pulpwood and paper industries are largely located on your lines and those of associated railways, and the increasing demand for these commodities assures a large traffic, although at present the business is affected by the general depression.

The improvement in traffic which is shown in the great natural products of a new country such as grain, coal and forest products, is a good indication that the development is under way that was counted on when your lines were projected. While there is a decrease in live stock tonnage, there was a satisfactory increase in the long haul movement from Western to Eastern Canada, and the relative position of your system as a factor in this business was materially advanced during the year.

The year under review was one which ended disappoiutingly. As briefly referred to in last year's report, the first months of the year showed good increases in revenue and these continued until the end of the summer. While the crop in Western Canada maintained a heavy grain traffic movement on your Prairie lines to the head of the Great Lakes, yet general business suffered a very severe setback in the latter months of the year. As over 60 per cent of your mileage participates in the grain movement which, as stated, was good, the results of the business depression are not fully reflected in the company's statements.

The movement of grain to the Pacific coast for export, which has begun, is an indication of traffic development that will be of great moment to your lines on account of the exceptionally low grades which your system's main line has across the Continental Divide.

The improvement in passenger traffic is not indicated by the comparative figures, as 1919 returns include revenue from troop movements. Deducting this revenue the increase over 1919 from what might be termed normal traffic would be $2,600,000.

OPERATING EXPENSES

Of the increase of $22,919,956 in operating expenses, $10,380,860.84 represents payroll increases, and of this latter amount $6,033,000 was due to the increases under Decision No. 2 of the U.S.R.R. Labour Board, which Canadian railways had to adopt in September, 1920, and which carried four months' back pay from May 1, against which the increased rates as mentioned below were not in effect till the middle of September.

The average wages of Canadian Northern employees since system returns have been available, are as follows:—

1915	$ 713 00
1916	734 00
1917	920 00
1918	1,197 00
1919	1,330 00
1920	1,633 00

The average indicated by the present rates for 1921 is $1,850.

The maintenance of way and maintenance of equipment expenses were augmented by having to undertake during the year a large proportion of the maintenance work (referred to in previous reports) which, due to war and other conditions, had of necessity been deferred, and on which a start was made in 1919. $6,348,243 was expended on work of this character during the year 1920.

Locomotive fuel cost increased by $4,548,000 over 1919, of which $2,560,000 was due to the increased cost of $1.86 per ton.

The cost of various materials and supplies increased from 20 per cent to 40 per cent over 1919 prices.

The cost of operation measured on a train mile basis has advanced as follows:—

1915	$1 34
1916	1 41
1917	1 98
1918	2 65
1919	3 36
1920	3 99

Such advances in expenses as are indicated above have not been anything like offset by additional revenue from freight and passenger tariff increases. The operating ratio of all railways operating under similar conditions has therefore increased until the situation is giving cause for serious concern all over the continent.

Canadian railways, as the Chief Commissioner of the Board of Railway Commissioners has said, are interlocked with and interdependent on United States railways to an extent that affects "every branch of the service, both mechanical and physical," as well as the employees. The passenger and freight rates in the two countries, measured by the amount received per passenger and per ton mile, have been at much the same level for years, and the wages are practically standard. Canadian railways have to pay more for their coal, for iron and steel products and for other important items of supply and for rolling stock and motive power, from 30 to 35 per cent higher, so that the general cost of operation, particularly when weather is considered, is greater in Canada. It is certain that excepting Canada, no other country's railway rates are lower than those in United States. Under almost identical rates that obtained in Canada during 1920, a number of United States railways with density of traffic unknown here, failed to pay operating expenses, while many roads narrowly averted that situation and had no earnings with which to pay the bulk of their interest charges.

FREIGHT RATE INCREASES

Effective September 13, 1920, freight tariffs were authorized to be increased by 40 per cent in the East and 35 per cent in the West, but these increases were in effect only to December 31, when the freight increases became 35 per cent in eastern, and 30 per cent in western territory. From these rate increases there were various exceptions. On stone, sand and gravel there were no increases, and small increases only were allowed on coal and other fuel rates.

PASSENGER FARES

Passenger fares were increased by 20 per cent, but a maximum of 4 cents per mile was provided, and the increase was reduced to 10 per cent effective January 1, 1921. A further reduction, cutting off the remaining 10 per cent, becomes effective on July 1, 1921, which will then restore the rates in effect prior to September 13, 1920.

LAND DEPARTMENT

Land sales for the year were 84,002 acres for $1,738,801.46, an average of $20.70 per acre, compared with an average of $19.42 for the preceding period.

During the same period, sales previously entered into aggregating 31,188.76 acres, were by mutual agreement cancelled, so that the acreage of land available for sale has been decreased by 52,813 acres, leaving a total of 719,495 acres unsold.

SECURITIES ISSUED

Additional car trust obligations were created during last year to the extent of of $15,000,000 for the purchase of equipment of different kinds, and $5,919,000 was repaid in respect of previous obligations, thus making the net increase $9,081,000 and leaving the total amount of car trust obligations outstanding at December 31, 1920, $42,017,000.

New equipment costing $22,058,272 was ordered in 1920, including 75 locomotives, 4,756 freight cars of various kinds, and 70 cars for passenger, baggage and express business.

In December, an issue of $25,000,000 seven per cent 20-year bonds, guaranteed by the Dominion Government, was authorized to provide for maturing loans.

CONSTRUCTION AND BETTERMENTS

Adhering to the announced policy of your directors, construction work was largely confined to those extensions of your western lines that had been commenced prior to the war.

Work was done on the following lines:—

Acadia Valley extension, Hanna-Medicine Hat line, Oliver Northeasterly, Onoway, Red Deer spur, Munson double tracking, Alsask Southeasterly, Eston Southeasterly, Humboldt-Melfort line, Luck lake, Melfort Northeasterly, Pebbles-Lampman line, Swift Current Branch, Thunderhill Extension, Jackfish Lake, Prince Albert Northeasterly, Turtleford Easterly, Okanagan Branch and the Vancouver Island line.

In all, 141·5 miles were graded and track was laid on 147·6 miles, while 182·5 miles were surfaced.

Good progress was made on the improvement and betterment programme during 1920.

On 233 miles, new rails of heavier section were laid, 536 miles were re-ballasted, 665,600 tie plates were applied and 20,800 rail anchors, 144 miles of fencing was completed. Among the buildings erected were 30 new stations, 7 freight sheds and 25 such buildings were enlarged, 106 section and bunk houses, 133 miscellaneous buildings, 8 new coaling plants were erected, 17 water stations were improved, 143 sidings were constructed or extended, 47 bridges and 42 culverts were built, 67 bridges and trestles were filled.

Equipment betterment work included the improvement of a number of locomotives by the application of super heaters and other improved devices that tend towards efficiency of operation. Freight and passenger cars were not only maintained, but many units were improved by the application of stronger draft gear, new roofs, steel under frames, etc.

While much work is required to carry out the improvements necessary to fully equip your lines, yet in view of existing financial conditions and the prospect of prices for both labour and material being reduced in the near future, it has been considered wise to make a considerable reduction in the amount of improvement and betterment work to be done this year as compared with what, under normal conditions, would be recommended.

CANADIAN GOVERNMENT MERCHANT MARINE, LIMITED

By the end of the year under review, 47 vessels of the Canadian Government Merchant Marine were in operation, giving ocean cargo services in conjunction with your railways to the world's principal markets. These services have been valuable from a traffic standpoint and have also encouraged Canadian trade. During 1920, both import and export traffic via the Pacific was materially increased through the operations of the Canadian Government Merchant Marine Limited to and from British Columbia ports. Reports from the West show that export traffic to the Atlantic seaboard has also been increased. When the 63 ships, which the building programme provides for are all in service, the co-operation from an ocean cargo fleet of such magnitude will be an asset of great value.

GENERAL REMARKS AND PROSPECTS

Your directors during the year were asked by the Minister of Railways as receiver for the Grand Trunk Pacific Railway, to assume the management of the Grand Trunk Pacific lines, and these lines were taken over for operation on September 1, 1920, but the results of operation of these lines are being separately recorded and are not included in this report. These lines, with those of the Canadian Northern Railway System, together with the lines formerly known as the Canadian Government Railways, make up a total of 17,337 miles under your directors' management.

In view of the fact that the Canadian Government Railways and Grand Truuk Pacific lines are operated in complete co-operation with the lines of the Canadian Northern System, it may not be out of place to refer to one or two features of the railway situation in Canada as affecting the existing National Railways System as a whole.

As previously stated, the general question of reducing operating costs so that a proper relationship may be re-established between expenses and earnings, is a problem not only for Canadian National Railways, but, generally speaking, for all railways on this continent.

The Canadian National Railways' difficulty is that having a very extensive transportation system, it has not sufficient density of traffic to enable the business

to be handled in large units while having to fully maintain the roadway structures and equipment. It therefore is unable to benefit fully from its excellently located lines, its low grades and other physical advantages that give the property a capacity much beyond the traffic offering. When traffic develops as everything in the pre-war period indicated, the National lines will come into greater use, and economies of operation not now practicable will be made possible. It must be remembered that a large proportion of the mileage included in the National System is of a colonization nature, and can only produce traffic after settlement takes place. Since the war commenced, immigration has been practically cut off compared with the pre-war influx, but there are encouraging reports which indicate that the movement is about to resume. The future of the National System depends in a large measure on the new-comers, and on the numbers in which they take up the lands that have been opened up in advance for them by the construction of colonization railways. Also, there must be a greater

The location of the National lines, the country served and other features that enter into the problem led your directors to confidently predict that the necessary traffic will materialize to enable the National lines to meet the operating performances of other railways.

Reverting to the Canadian Northern Railway System's returns, it may be noted from the following table that very substantial progress has been made in traffic development since the lines were consolidated even though this took place during the war period.

CANADIAN NORTHERN RAILWAY SYSTEM

TABLE SHOWING DEVELOPMENT OF TRAFFIC

Fiscal Year	Average Miles Operated	Revenue Tons Carried	Revenue Ton miles per mile of Road	Average Dist. Freight Haul	Passengers Carried	Pass. miles per mile of Road	Average Passenger Journey
1915..	7,269	10,536,769	296,998	212,203	3,961,787	28,486	51.812
1916..	8,048	12,930,460	481,135	297,191	3,859,844	28,413	58.794
Calendar							
1917..	9,433	13,834,676	463,707	312.86	4,503,958	31,425	65.130
1918..	9,452	13,289,641	425,442	302.59	4,144,965	30,477	70.01
1919..	9,636	12,439,314	425,472	325.26	4,925,547	36,256	70.00
1920..	9,788	14,504,411	485,169	323.18	5,468,352	40,139	70.92

Average miles operated includes electric line, but statistics are based on steam line mileage only.

It is worthy of note that since June 30, 1915, the end of the first year for which a system report was prepared, which was prior to the opening of your transcontinental main line, over 2,500 miles of line have been absorbed into the system (including the Pacific Coast Extension, and the connection between the Eastern and Western sections of your system forming part of the transcontinental line referred to), an increase of 33⅓ per cent, and yet the density of freight traffic measured by the revenue tons carried one mile per mile of road has increased from 296.998 tons to 485.169 tons, an increase of 63.36 per cent and the density of passenger traffic measured by the number of passengers carried one mile per mile of line has increased from 28,486 to 40,139, an increase of 40.91 per cent. This volume of traffic if handled at pre-war train mile costs and at pre-war freight and passenger rates would have given your system substantial net earnings from these sources alone, and with express, mail and miscellaneous earnings, the amount would have provided for a large proportion of the system's fixed charges.

Your board takes the opportunity of expressing its thanks to officers and employees for loyal and efficient services rendered during the year.

D. B. HANNA,

President.

CONSOLIDATED BALANCE SHEET AT DECEMBER 31, 1920

ASSETS

Investments—Property investment. Investment in road and equipment, including portion of discount on funded debt	$579,508,488 87	
Acquired securities (Exhibit A)	45,864,181 81	
Terminal and other properties	7,019,940 93	
		$632,392,611 61
Cash and Victory Bonds (at cost) in trust accounts held in respect of construction work, sinking funds and other special accounts—		
Dominion Government	1,395,137 01	
Province of Manitoba	53,336 61	
Province of Saskatchewan	1,202,825 24	
Province of Alberta	1,305,775 29	
Province of Ontario	99,818 12	
Province of British Columbia	740,471 18	
National Trust Company	2,261,268 80	
British Empire Trust Company	38,087 11	
Pennsylvania Company re Equipment Series A (1918), and B (1919)	240,328 29	
Girard Trust Company re Equipment Series E (1920)	4,412,580 00	
Sinking funds	866,064 42	
		12,615,692 07
Lands unsold		18,110,573 82
Other investments (at cost)		4,486,240 84
		$667,605,118 34
Current assets—		
Cash in bank	$ 14,767,583 77	
Balance due from agents' station balances, etc. (net)	2,319,811 40	
Miscellaneous accounts receivable	16,684,995 17	
Deferred payments on account of land sales and accrued interest	8,109,075 87	
Materials and supplies on hand (as per books)	19,109,828 12	
		60,991,294 33
Deferred charges—		
Portion of discount on funded debt	$ 1,027,017 92	
Insurance premiums unexpired	967,411 93	
Unadjusted debits (net balance)	1,483,196 15	
		6,477,626 00
Advances by the Canadian Northern Railway company to affiliated companies (per contra)		11,854,265 00
Profit and loss account—Balance		50,140,977 66
		$794,069,281 33

NOTE.—The Ontario Government questions the title of the Canadian Northern Ontario Railway to the lands granted in respect of construction of lines in Ontario which are valued by the company at $6,000,000.

CONSOLIDATED BALANCE SHEET AT DECMEBER 31, 1920

LIABILITIES

Stock—		
Capital stock—		
Common	.....	$100,000,600 00
Affiliated companies	$ 77,208,100 00	
Less—Held in Treasury	71,370,900 00	
		5,837,200 00
		$105,837,800 00
Long term funded debt—		
Canadian Northern Railway (Exhibit B)	$150,813,548 91	
Affiliated companies (Exhibit C)	125,659,291 79	
	$276,472,840 70	
Five per cent income charge convertible debenture stock	24,999,400 00	
Equipment trust obligations	42,017,000 00	
		343,489,240 70
Demand and short term loans secured by collateral or mortgage	.....	48,834,784 74
Dominion of Canada	.....	233,800,738 23
Current liabilities—		
Audited vouchers and other floating liabilities	$ 29,961,492 64	
Pay rolls	3,702,304 12	
Interest and equipment obligations matured	3,557,023 10	
Accrued interest on bonds, loans and equipment securities	5,002,076 81	
Taxes accrued	926,487 24	
		43,149,383 91
Reserves—		
Steamship replacement fund	$ 3,310,019 45	
Equipment replacement fund	111,619 67	
Insurance account	554,140 28	
Portion of profit on exchange reserved	3,127,289 35	
		7,103,068 75
Advances to affiliated companies by Canadian Northern Railway Company (per contra)	.....	11,854,265 00
		$794,069,281 33

C. E. Friend,
Comptroller.

Auditor's Certificate

We have examined the books and records of the Canadian Northern Railway System for the twelve months ended 31st December, 1920, and we certify that in our opinion the above balance sheet is properly drawn up so as to exhibit a true and correct view of the affairs of the system at 31st December, 1920, and is in accordance with the books and the explanations and information given.

George A. Touche & Co.,
Chartered Accountants,
Auditors.

Toronto, Ont., April 7, 1921.

INCOME STATEMENT FOR FISCAL YEAR ENDED DECEMBER 31, 1920.

Revenue	$66,695,398 80	
Subsidiary miscellaneous earnings	1,845,994 62	
		$68,541,393 42
Working expenses	$82,953,978 60	
Taxes, rentals, joint facilities, etc.	1,311,289 65	
		84,265,268 25
Loss on operation	.....	$15,723,874 83
Fixed charges—		
Canadian Northern Railway	$ 9,455,084 25	
Affiliated companies	4,890,259 41	
Interest on demand and short term notes and loans—		
Government	10,326,260 69	
Other (net balances)	797,376 60	
	$25,468,980 95	
Less—		
Profit on exchange	1,149,024 90	
		24,319,956 05
Deficit carried to profit and loss statement		$40,043,830 88

PROFIT AND LOSS STATEMENT AT DECEMBER 31, 1920.

Deficit on income account for the year	$40,043,830 88	
Discount, etc., on funded debt	344,749 78	
Delayed income debits and credits—Debit balance	216,869 48	
		$40,605,450 14
Deficit brought forward at December 31, 1919		9,535,527 52
Total deficit at December 31, 1920, carried to balance sheet		$50,140,977 66

ACQUIRED SECURITIES

EXHIBIT A

The Minnesota & Ontario Bridge Company—	
4½ per cent first mortgage debenture bonds	$ 180,000 00
Capital stock	100,000 00
The Minnesota & Manitoba Railroad Company—	
5 per cent general mortgage bonds	250,000 00
Capital stock	400,000 00
The Lake Superior Terminals Company, Limited—	
5 per cent first mortgage gold bonds	2,000,000 00
Capital stock	500,000 00
The Canadian National Telegraph Company—	
5 per cent general mortgage bonds	800,000 00
Capital stock	500,000 00
The Winnipeg Land Company, Limited—	
5 per cent first mortgage gold bonds	300,000 00
Capital stock	100,000 00
St. Boniface Western Land Company—	
5 per cent first mortgage bonds	750,000 00
Capital stock	250,000 00
The Edmonton & Slave Lake Railway Company—	
5 per cent first mortgage bonds	420,000 00
The Canadian Northern Railway Express Company, Limited—	
4 per cent first mortgage gold bonds	3,000,000 00
Capital stock	1,000,000 00
Canadian Northern Steamships, Limited—	
Capital stock	2,000,000 00

ACQUIRED SECURITIES—*Continued.*

Canadian Northern System Terminals, Limited—	
5 per cent first mortgage debenture stock..	7,000,000 00
Capital stock..	2,000,000 00
The Bay of Quinte Railway Company—	
Preferred stock..	465,000 00
Common stock..	930,000 00
Central Ontario Railway—	
Preferred stock..	291,000 00
Common stock..	3,038,000 00
The Irondale, Bancroft & Ottawa Railway Company—	
5 per cent first mortgage bonds..	450,000 00
Capital stock..	53,000 00
The Marmora Railway & Mining Company—	
Bonds of Ontario, Belmont & Northern Railway ..	100,000 00
Capital stock..	128,600 00
The Qu'Appelle, Long Lake & Saskatchewan Railroad & Steamboat Company—	
Capital stock..	201,900 00
The Niagara, St. Catharines & Toronto Railway Company—	
Capital stock..	924,900 00
The Niagara, St. Catharines & Toronto Navigation Company, Limited—	
5 per cent gold bonds..	200,000 00
Capital stock..	100,000 00
The Quebec & Lake St. John Railway Company—	
Capital stock..	4,034,800 00
Canadian Northern Pacific Railway Company—	
Capital stock..	25,000,000 00
Canadian Northern Alberta Railway Company—	
Capital stock..	3,000,000 00
Canadian Northern Western Railway Company—	
Capital stock..	2,000,000 00
The Canadian Northern Saskatchewan Railway Company—	
Capital stock..	1,000,000 00
Canadian Northern Manitoba Railway Company—	
Capital stock..	250,000 00
The Canadian Northern Ontario Railway Company—	
Capital stock..	10,000,000 00
Duluth, Winnipeg & Pacific Railway Company—	
Capital stock..	3,060,000 00
The Duluth, Rainy Lake & Winnipeg Railway Company—	
Capital stock..	2,000,000 00
The Duluth, Winnipeg & Pacific Railroad Company—	
Capital stock..	100,000 00
Mount Royal Tunnel & Terminal Company, Limited—	
Capital stock..	5,000,000 00
The Northern Consolidated Holding Company, Limited—	
Capital stock..	4,446,700 00
This company, whose issued capital is $6,181,500, owns $5,144,600 capital stock in the Canadian Northern Quebec Railway Company.	
The Canadian Northern Quebec Railway Company—	
Capital stock..	2,000,000 00
The Halifax & South Western Railway Company—	
Capital stock..	1,000,000 00
The Bessemer & Barry's Bay Railway Company—	
Capital stock..	125,000 00
The Toronto Eastern Railway Company—	
5 per cent first mortgage debenture bonds..	900,000 00
Capital stock..	250,000 00

ACQUIRED SECURITIES—*Concluded.*

The Toronto Suburban Railway Company— Capital stock	1,500,000 00	
The Canadian National Realties, Limited— Capital stock	40,000 00	
The Toronto Dwellings Limited— Capital stock	100,000 00	
The Federal Properties Limited— Capital stock	1,000 00	
The Toronto, Niagara & Western Railway Company— Capital stock	125,000 00	
The St. Charles & Huron River Railway Company— Capital stock	10,000 00	
The Canadian National Transfer Company, Limited— Capital stock	500,000 00	
The Imperial Rolling Stock Company, Limited— Capital stock	211,000 00	
The Canadian Northern Rolling Stock Company, Limited— Capital stock	50,000 00	
The Canadian National Rolling Stock Company, Limited— Capital stock	50,000 00	
The James Bay & Eastern Railway Company, Limited— Capital stock	1,250,000 00	
Total acquired securities		$96,435,000 00
Cost to the railway company		$45,864,181 81

EXHIBIT B.

FUNDED DEBT OF THE CANADIAN NORTHERN RAILWAY COMPANY.

	Sterling	Currency
GUARANTEED AS TO PRINCIPAL AND INTEREST BY THE DOMINION OF CANADA		
3 per cent first mortgage debenture stock	£1,923,287	$9,359,996 72
3½ per cent first mortgage debenture stock	1,622,586	7,896,588 26
4 per cent Dominion guaranteed debenture stock	.....	17,060,333 33
7 per cent 20-year sinking fund debenture bonds	.....	25,000,000 00
GUARANTEED BY GOVERNMENT OF MANITOBA		
4 per cent first mortgage consolidated debenture bonds	£2,215,900	$10,784,046 65
Underlying bonds—		
4 per cent Sifton Branch bonds	233,700	1,137,340 00
4 per cent Gilbert Plains Branch bonds	500	2,433 33
4 per cent Manitoba & S.E. bonds	105,300	512,460 00
4 per cent Ontario Division first mortgage debenture bonds	1,180,600	5,745,586 66
4 per cent Winnipeg Terminal bonds	616,438	3,000,000 00
4 per cent first mortgage debenture stock	587,671	2,859,998 87
GUARANTEED BY GOVERNMENT OF SASKATCHEWAN		
4 per cent first mortgage debenture stock	1,650,000	8,029,999 99
GUARANTEED BY GOVERNMENT OF ALBERTA		
4 per cent first mortgage debenture stock	£1,147,945	$5,586,665 64
4 per cent perpetual consolidated debenture stock	9,234,867	44,943,019 40
4 per cent land grant bonds (1909)	217,300	1,057,526 72
5 per cent land mortgage debentures	1,477,100	7,188,553 34
4½ per cent Prince Albert Branch first mortgage bonds	.....	300,000 00
Long term loans at 4 per cent against deposit of $352,000 bonds of Minnesota & Manitoba Railroad Company payable 1930	.....	349,000 00
		$150,813,548 91

EXHIBIT C.

FUNDED DEBT OF AFFILIATED COMPANIES

	Sterling	Currency
The Canadian Northern Alberta Railway Company		
Guaranteed by Dominion Government—		
3½ per cent first mortgage debenture stock.. ...	£647,260 0 0	$3,149,998 66
Canadian Northern Western Railway Company		
Guaranteed by Government of Alberta—		
4½ per cent first mortgage debenture bonds (1943)	575,342 0 0	2,799,997 73
4½ per cent first mortgage debenture stock (1942)	1,320,000 0 0	6,424,000 00
Canadian Northern Pacific Railway Company		
Guaranteed by Government of British Columbia—		
4 per cent first mortgage debenture stock..	3,372,329 0 0	16,412,001 13
4½ per cent terminal debenture stock..	1,770,000 0 0	8,614,000 00
The Canadian Northern Ontario Railway Company		
Guaranteed by Dominion Government—		
3½ per cent first mortgage debenture stock..	7,033,561 0 0	34,229,996 87
Guaranteed by Government of Ontario—		
3½ per cent first mortgage debenture stock..	1,615,068 0 0	7,859,997 59
4 per cent perpetual consolidated debenture stock	1,866,499 0 0	9,083,628 46
Central Ontario Railway		
5 per cent first mortgage bonds..	171,300 0 0	833,660 04
The Bay of Quinte Railway Company		
5 per cent first mortgage bonds..	.....	780,000 00
The Canadian Northern Quebec Railway Company		
4 per cent perpetual guaranted debenture stock..	1,078,843 0 0	5,250,369 26
Great Northern Railway of Canada, 4 per cent first mortgage bonds..	.....	3,505,750 00
The Quebec and Lake St. John Railway Company		
4 per cent first mortgage perpetual guaranteed debenture stock..	895,688 0 0	4,359,014 93
Duluth, Winnipeg and Pacific Railway Company		
4 per cent first mortgage debenture stock.. ..	1,440,683 0 0	7,011,323 93
The Halifax and South Western Railway Company		
3½ per cent first mortgage bonds..	.....	4,447,000 00
The Niagara, St. Catharines and Toronto Railway Company		
5 per cent first mortgage bonds..	.....	1,098,000 00
The Qu'Appelle, Long Lake and Saskatchewan Railroad and Steamboat Company		
4 per cent first mortgage guaranteed debenture stock..	1,031,412 6 0	5,019,539 86
Mount Royal Tunnel and Terminal Company, Limited		
5 per cent first mortgage rent charge bonds..	442,400 0 0	2,153,013 33
The Toronto Suburban Railway Company		
4½ per cent first mortgage debenture stock..	540,000 0 0	2,628,000 00
		$125,659,291 79

OPERATING REVENUE, OPERATING EXPENSES AND NET EARNINGS, YEAR ENDED DECEMBER 31, 1920

COMPARED WITH PREVIOUS FISCAL YEAR

Operating Revenues

Per Cent.	1920	Class	1919	Per Cent.
19·03	$ 12,694,846 83	Passenger	$ 10,775,708 46	20·12
73·54	49,049,946 83	Freight	39,175,552 09	73·14
0·67	446,974 15	Mails	374,926 26	0·70
2·62	1,742,447 20	Express	1,209,645 65	2·26
4·14	2,761,183 79	Miscellaneous	2,026,345 11	3·78
100·00	$ 66,695,398 80	Total	$ 53,562,177 57	100·00

Operating Expenses

Per Cent.	1920	Class	1919	Per Cent.
	$		$	
26·07	21,630,033 77	Maintenance of way and structures	15,905,058 62	26·49
20,42	16,937,767 67	Maintenance of equipment	11,569,896 52	19·27
1·66	1,373,168 70	Traffic expenses	1,031,282 13	1·72
48·63	40,350,629 59	Transportation expenses	29,002,877 63	48·31
1·78	1,473,721 64	Miscellaneous operations	958,449 37	1·60
2·28	1,891,700 17	General expenses	1,566,459 65	2·61
− 0·84	−703,042 94	Transportation for investment		
100·00	$82,953,978 60	Total	$60,034,023 92	100·00

Summary of Revenues and Expenses.

Per Cent.	1920	Class	1919	Per Cent.
	$		$	
	66,695,398 80	Operating revenues	53,562,177 57	
124·37	82,953,978 60	Operating expenses	60,034,023 92	112·08
−24·37	−16,258,579 80	Net	−6,471,846 35	−12·08
100·00				100·00

DESCRIPTION OF FREIGHT CARRIED YEARS ENDED DECEMBER 31

	1920			1919		
	Quantity	Tons	%	Quantity	Tons	%
Flour and other mill prod'ts	7,172,120 Sks.	358,606	2·47	8,978,640 Sks.	448,932	3·61
Wheat	66,182,167 Bus.	1,985,465	13·68	53,765,600 Bus.	1,612,968	12·97
Oats	43,083,177 "	732,414	5·05	28,423,706 "	483,203	3·88
Barley and other grains	25,294,857 "	282,344	1·95	9,184,268 "	227,873	1·83
Hay and straw	.....	224,088	1·55	.....	188,551	1·52
Fruit (fresh)	.....	78,383	0·54	.....	128,997	1·04
Vegetables and other agricultural products	.....	85,424	0·59	.....	.....	.....
Horses	42,839 Hd.	36,413	0·25	46,974 Hd.	39,928	0·32
Cattle	343,720 "	206,232	1·42	418,157 "	250,894	2·02
Sheep and hogs	259,530 "	25,953	0·18	369,860 "	36,986	0·29
Other animal products	.....	60,153	0·41	.....	72,955	0·59
Coal and coke	.....	2,631,343	18·14	.....	2,174,207	17·48
Building material, stone, etc	.....	770,273	5·31	.....	355,911	2·85
Ores	.....	177,725	1·23	.....	181,794	1·46
Other mine products	.....	97,328	0·67	.....	130,395	1·05
Logs, lumber, etc	1,749,569 M.F.	2,624,353	18,09	1,928,698 M.F.	3,007,106	24·18
Cordwood	254,365 Cds.	356,111	2·46	329,138 Cds.	460,793	3·70
Pulpwood	.....	551,259	3·80	(Inc. with Logs)		
Other forest products	.....	41,406	0·29	(Inc. with Misc.)		
Immigrants' effects and household goods	.....	97,526	0·67	.....	91,367	0·73
Petroleum products	.....	210,466	1·45	.....	154,956	1·25
Paper, wood-pulp, etc	.....	582,659	4·02	(Inc. with Misc.)		
Other manufactures	.....	1,074,829	7·41	.....	815,845	6·56
Merchandise and miscellaneous	.....	1,213,658	8·37	.....	1,575,653	12·67
Total tons	.....	14,504,411	100·00	.....	12,439,314	100·00

EARNINGS, EXPENSES AND NET EARNINGS

PER MILE OPERATED FOR YEARS ENDED DECEMBER 31

Year	Average Miles Operated	Earnings	Expenses	Net Earnings
		$ cts.	$ cts.	$ cts.
1918	9,542	5,005 29	4,661 76	+ 343 53
1919	9,636	5,558 55	6,230 18	− 671 63
1920	9,788	6,813 99	8,475 06	− 1,661 07

FIXED CHARGES PER MILE OF ROAD

	1920	1919	1918
Amount required per mile of road to pay fixed charges (including leased lines)	$2,484 67	$2,072 41	$1,893 60

PASSENGER, FREIGHT AND MISCELLANEOUS STATISTICS

COMPARED WITH PREVIOUS FISCAL YEAR

	1920	1919	+ Increase or − Decrease
Passenger traffic—			
Passengers carried (earning revenue)	5,468,352	4,925,547	+ 542,805
Passengers carried one mile	387,818,185	344,773,029	+ 43,045,156
Passengers carried one mile per mile of road	40,139	36,256	+ 3·883
Average distance carried	70·92	70·00	+ 0·92
Total passenger revenue $	11,392,338·06	9,629,460 01	+ 1,762,878 05
Average amount received per passenger $	2.08·33	1.95·500	+ 0.12·83
Average amount received per passenger per mile Cts	2·938	2·793	+ 0·145
Total Passenger train earnings $	14,532,036 96	11,811,612 85	+ 2,720,424 11
Passenger train earnings per train mile $	1.63·314	1.53·575	+ 0.09·739
Freight traffic—			
Revenue tons carried	14,504,411	12,439,314	+ 2,065,097
Revenue tons carried one mile	4,687,603,090	4,046,023,363	+ 611,579,727
Revenue tons carried one mile per mile of road	485,169	425,472	+ 59,697
Average distance haul of one ton	323·18	325·26	+ 2·08
Total freight revenue $	48,074,193 87	38,276,419 06	+ 9,797,774 81
Average amount received for each ton of freight $	3.31·45	3.07·705	+ 0.23·75
Average revenue per ton per mile Cts.	1·026	0·946	+ 0·080
Total freight train earnings $	48,999,170 41	39,010,667 80	+ 9,988,502 61
Freight train earnings per train mile $	3.63·871	3.34·877	+ 0·28·994
Train mileage—			
Mileage of passenger trains	6,992,016	5,847,229	+ 1,444,787
Mileage of freight trains	11,559,893	9,788,196	+ 1,771,697
Mileage of mixed trains	1,824,059	1,826,898	− 2,839
Mileage of special service trains	82,132	51,127	+ 31,005
Expenses per traffic train mile—			
Maintenance of way and structures $	1.04·40	0.89·45	+ 0.14·95
Maintenance of equipment Cts.	81·57	65·05	+ 16·52
Traffic expenses Cts.	6·65	5·82	+ 0·83
Transportation expenses, rail $	1.93·45	1.61·96	+ 0.31·49
Transportation expenses, water Cts.	.....	0·11	− 0·11
Miscellaneous operations Cts.	7·10	5·34	+ 1·76
General expenses Cts.	8·85	8·51	+ 0·34
Transportation for investment Cts.	3·43	.....	− 3·43
Total $	3.98·59	3.36·24	+ 0.62·35

OPERATIONS OF ELECTRIC LINES NOT INCLUDED IN ABOVE STATEMENT

Electric line statistics—			
Passengers carried (earning revenue)	12,804,186	11,281,694	+ 1,522,492
Total passenger revenue $	992,305 77	909,985 72	+ 82,320 05
Revenue tons carried	403,398	383,130	+ 20,268
Total freight revenue $	295,344 65	280,489 07	+ 14,855 58

SUMMARY OF EQUIPMENT

	At December 31			
	1920	1919	1918	1917
Locomotives	906	850	788	735
Sleeping and dining cars	155	114	116	116
Passenger coaches	763	741	956	624
Baggage, mail and express cars	250	227	191	187
Business cars	25	26	25	22
Instruction cars	9	7	6	3
Freight, refrigerator and stock	40,660	37,457	31,828	29,489
Conductors' vans	552	438	426	443
Boarding, tool, auxiliary cars, steam shovels and snow equipment	1,950	1,768	1,670	1,517

MILES OF RAILWAY

The total mileage operated at the close of the fiscal year ended December 31, 1920, including lines owned and leased, was 9,868·9 miles, made up as follows:—

CENTRAL DISTRICT—WEST OF PORT ARTHUR

Rainy River Division—		
Port Arthur to Paddington Junction	435.1	
Twin City Junction to North Lake	58.1	
Emerson to South Junction	71.6	
Duluth Junction to River	1.5	
		566.3
Manitoba Division—		
Beach Junction to Victoria Beach and Grand Beach	72.6	
Grosse Isle to Hodgson	80.7	
St. James to Gypsumville	156.7	
Steep Rock Junction to Steep Rock	12.0	
Portage Junction to Emerson	63.4	
Morris to Somerset	62.2	
Carman Junction to Belmont	118.8	
Greenway to Deloraine	79.7	
Woodward Avenue to Dauphin	175.6	
Delta Junction to Delta	14.8	
Oakland to Amaranth	44.0	
Arizona Junction to Brandon	78.8	
Muir to McCreary Junction	70.4	
Brandon Junction to Carberry Junction	22.9	
Rossburn Junction to Ross Junction	190.6	
Hallboro to Beulah	75.0	
Ochre River to end of track	15.0	
Wroxton to Willowbrook	41.0	
De Lourdes	2.6	
Dundee	4.0	
Winnipeg transfer tracks	1.2	
Paddington Junction to Woodward avenue	4.2	
Totogan Junction to Totogan	1.8	
		1,388.0

PRAIRIE DISTRICT

Brandon Division—		
Brandon to C. N. Junction	220.8	
Maryfield to Radville	139.8	
Luxton to Estevan	24.9	
M. & B. Junction to Hartney Junction	38.0	
Belmont to Virden	91.9	
Radville to Bengough	45.2	
		560.1
Dauphin Division—		
Dauphin to Humbolt	247.3	
North Junction to Prince Albert	360.5	
Sifton Junction to Winnipegosis	20.7	
Thunderhill Junction to Preeceville	72.1	
Hudson Bay Junction to The Pas	87.5	
Melfort to St. Brieux	21.5	
Canora to Sturgis Junction	21.7	
		831.3
Regina Division—		
Regina to Saskatoon	160.0	
Junction with Riverhurst Sub. to Moosejaw Junction	86.3	
Gravelbourg Junction to Gravelbourg	78.6	
		324.9
Saskatoon Division—		
Saskatoon to East Prince Albert	89.3	
Prince Albert to Denholm	116.5	
Shellbrok to Big River	56.5	
Shelbrook to Big River	56.5	
Humbolt to North Battleford	147.6	
Delisle to Lucky Lake	79.2	
Elrose Junction to Alsask	148.1	
Dalmeny to Carlton	35.8	
Craven Junction to Craven	4.4	
		803.5

WESTERN DISTRICT

Edmonton Division—

Edmonton C.N. Terminals	11.1	
North Battleford to Lobstick Junction	331.0	
North Battleford to Turtleford	55.7	
Battleford Junction to Battleford	8.0	
Edmonton Junction to Stony Plains	19.4	
St. Albert to Athabaska	85.8	
Cardiff Junction to Cardiff	2.5	
Peace River Junction to Sangudo	33.4	
Vegreville Junction to Big Valley	125.3	
Warden to Brazeau	173.6	
Terminal Junction to Camrose Junction	45.8	
S. E. Junction to Alliance	60.3	
St. Paul Junction to St. Paul	125.5	
		1,072.4

Calgary Division—

Kindersley to Calgary	273.4	
Big Valley to Munson	36.0	
Medicine Hat to Cessford	46.4	
		365.8

PACIFIC DISTRICT

Pacific District—

Lobstick Junction to Chiplake	13.2	
Chiplake to Obed	77.5	
Obed to Snaring	59.1	
Snaring to Geikie	20.6	
Geikie to Red Pass Junction	34.8	
		205.2

Kamloops Division—

Red Pass Junction to Blue River	88.7	
Blue River to Kamloops	142.2	
Kamloops Junction to Boston Bar	125.6	
Boston Bar to New Westminster	118.7	
New Westminster to Vancouver	13.1	
Victoria to Patricia Bay	15.1	
		503.8

ONTARIO DISTRICT—EAST OF PORT ARTHUR

Toronto Division—

Toronto to Rosedale	3.8	
Rosedale to Parry Sound	145.2	
Todmorden to Trenton	105.0	
Trenton to Wallace	117.6	
York River to Howland	51.0	
Bessemer Junction to Bessemer	4.8	
Ormsby Junction to Coe Hill	7.2	
Belmar to Cordova	9.6	
Udney to Orillia	10.2	
Oshawa to Oshawa Town	2.4	
		456.8

Ottawa Division—

Brockville to Westport	44.4	
Harrowsmith to Kingston	18.6	
Rideau Junction to Hurdman	6.0	
Riverside to Ottawa Central Station	1.7	
Rideau Junction to Brent	157.8	
Picton to Trenton	30.6	
Rideau Junction to Trenton	139.7	
Yarker to Bannockburn	54.5	
		453.3

Nipissing Division—

Brent to Capreol	144.8	
Capreol to Foleyet	148.3	
Parry Sound to Capreol	127.0	
Algo to C.N. Junction	2.4	
Garson Junction to Garson	3.7	
Key Junction to Key Harbour	6.2	
Selwood Junction to Sellwood	4.7	
Sudbury Junction to Sudbury	5.2	
		442.3

Superior Division—

Foleyet to Hornepayne	148.1	
Hornepayne to Jellicoe	150.5	
Jellicoe to Port Arthur	147.9	
		446.5

QUEBEC DISTRICT

Montreal Division—

Montreal to Lazard	7.3	
Lazard to Hurdman	104.3	
Montreal to Joliette	36.3	
Joliette to Hedleyville Junction	137.8	
Paradis to Rawdon	15.7	
Aldred Junction to Shawinigan Falls	3.8	
Rivière-à-Pierre Junction to Garneau Junction	39.7	
Joliette to Cushing Junction	61.6	
Rinfret Junction to Huberdeau	45.3	
Arundel to China Clay Mine	9.2	
St. Marc Quarries Spur	1.9	
		462.9

Saguenay Division—

Quebec to Lake Edward	111.9	
Lake Edward to Chicoutimi	115.1	
Linton Junction to La Tuque	39.6	
Chambord Junction to St. Felicien	29.7	
Loretteville to Stoneham	10.0	
Valcartier to Clarke	5.4	
Montmorency Junction to Mont Mills	7.2	
		318.9

MARITIME DISTRICT

Bridgewater Division—

Halifax to Southwestern Junction	4.4	
oSuthwestern Junction to Yarmouth	246.4	
Lunenburg to Mahone Junction	7.0	
Bridgewater Junction to Port Wade	92.5	
Caledonia Junction to Caledonia	22.1	
Liverpool Town to Rapid Falls	5.1	
Middleton Junction to Middleton	.6	
		378.1
Forward		.....
Forward		.....

MINNESOTA DISTRICT

Minnesota Division—

Duluth to D.W. & P. Junction	3.6	
D.W. & P. Junction to North Junction via Loop	75.4	
South Junction to Ranier (River)	93.6	
		172.6
		9,742.7

ELECTRIC LINES IN PROVINCE OF ONTARIO

Port Dalhousie to Niagara Falls	17.5	
Thorold to Port Colborne	18.6	
Niagara Falls to Fallsview	4.6	
St. Catharines to Niagara-on-the-Lake	12.2	
Local lines to St. Catharines, Thorold and Merritton	8.7	
		61.6
Toronto to Woodbridge	12.0	
Toronto to Lambton	2.1	
Lambton to Guelph	46.3	
Local lines in Toronto	4.2	
		64.6
Total mileage operated		9,868.9

LOCATED AS FOLLOWS:

Province of Nova Scotia	378.1	
Province of Quebec	725.0	
Province of Ontario	2,324.6	
Province of Manitoba	1,995.7	
Province of Saskatchewan	2,283.5	
Province of Alberta	1,415.2	
Province of British Columbia	530.5	
State of Minnesota	216.3	
Total mileage		9,868.9
Average miles operated for fiscal year		9,788

SUMMARY OF MILEAGE

Mileage owned by Canadian Northern Railway System			9,372.0
Joint running rights—			
Toronto to Rosedale	G.T.R.	3.8	
Grand Trunk Crossing to Orillia	C.P.R.	2.8	
Harowsmith to Kingston	C.P.R	18.6	
Riverside to Ottawa Union Station	G.T.R.	1.7	
Current River to Port Arthur	C.P.R.	2.1	
C.N. Junction to Regina	C.P.R.	0.8	
Chiplake to Obed	G.T.P.	77.5	
Snaring to Geikie	G.T.P.	20.6	
New Westminster to Vancouver	Gt. Nor.	13.1	
D.W. & P. Junction to Duluth	Nor. Pac.		
	C. St. P.		
	M. & O.	3.6	
Halifax to Southwestern Junction	C.G.R.	4.4	
Middleton Junction to Middleton	D.A.R.	.6	
			149.6
Lines leased—			
Northern Pacific in Manitoba		347.3	
			347.3
Total mileage operated			9,868.9

CONSTITUENT AND SUBSIDIARY COMPANIES COMPRISED IN THE CANADIAN NORTHERN RAILWAY SYSTEM

CONSTITUENT COMPANIES

The Canadian Northern Railway Company.
The Canadian Northern Ontario Railway Company.
The Canadian Northern Quebec Railway Company.
Mount Royal Tunnel and Terminal Company, Limited.
Canadian Northern Pacific Railway Company.
Canadian Northern Alberta Railway Company.
Canadian Northern Western Railway Company.
The Canadian Northern Saskatchewan Railway Company.
The Canadian Northern Manitoba Railway Company.
Duluth, Winnipeg and Pacific Railway Company.
Duluth, Winnipeg and Pacific Railroad Company.
Duluth, Rainy Lake and Winnipeg Railway Company.
Central Ontario Railway.
The Halifax and South Western Railway Company.
The Bay of Quinté Railway Company.
The Irondale, Bancroft and Ottawa Railway Company.
The Marmora Railway and Mining Company.
The Northern Consolidated Holding Company, Limited.
The Quebec and Lake St. John Railway Company.
The Qu'Appelle, Long Lake and Saskatchewan Railroad and Steamboat Company.
The Minnesota and Manitoba Railroad Company.
The Bessemer and Barry's Bay Railway Company.
The Toronto, Niagara and Western Railway Company.
The James Bay and Eastern Railway Company.
The St. Charles and Huron River Railway Company.
The Toronto Eastern Railway Company.
The Toronto Suburban Railway Company.
The Niagara, St. Catharines and Toronto Railway Company.
The Niagara, St. Catherines and Toronto Navigation Co., Ltd.
Canadian Northern System Terminals (Limited).
The Minnesota and Ontario Bridge Company.
The Lake Superior Terminals Company, Limited.

SUBSIDIARY COMPANIES

Canadian National Telegraph Company.
The Great North Western Telegraph Company of Canada.
The Winnipeg Land Company, Limited.
St. Boniface Western Land Company.
The Canadian Northern Railway Express Company, Limited.
Canadian Northern System Terminals, (Limited.)
The Minnesota and Ontario Bridge Company.
Canadian National Express Company.
Canadian Northern Steamships, Limited.
The Niagara, St. Catharines and Toronto Navigation Company, Limited.
Canadian Northern Rolling Stock, Limited.
The Imperial Rolling Stock Company, Limited.
Canadian National Transfer Company, Limited.
Toronto Dwellings, Limited.
Canadian Northern Realties, Limited.
Federal Properties, Limited.

CONTROLLED COMPANIES

Canadian Government Merchant Marine, Limited.

CANADIAN NORTHERN RAILWAY SYSTEM

LOANS from Dominion Government with interest accrued for year ended December 31, 1920.

Loan	Amount outstanding	Interest due per Accounts rendered to November 1, 1920
Advances under 1911 legislation	$ 2,396,099 68	
Advances under 1914 legislation	5,294,000 02	
Advances under 1915 legislation	10,000,000 00	$ 1,000,000 00
Advances under 1916 legislation	15,000,000 00	3,913,643 83
Advances War Measures Act, 1916	497,566 80	36,806 29
Advances War Measures Act, 1918	5,700,000 00	780,041 09
Advances under 1917 legislation	25,000,000 00	4,314,273 27
Advances under 1918 legislation	25,000,000 00	3,215,794 71
Advances under 1919 legislation	35,000,000 00	2,414,682 67
Advances under 1920 legislation	42,704,865 62	646,494 32
Equipment loans under Chapter 38, 1918, Vote 96, 1919, and Vote 115, 1920	47,773,590 92	3,112,879 01
	$214,366,123 04	$19,434,615 19

Summary—

Amount outstanding December 31, 1920	$214,366,123 04
Interest due as per accounts rendered to November 30, 1920	19,434,615 19
	$233,800,738 23

CANADIAN NATIONAL RAILWAYS—CANADIAN NORTHERN RAILWAY SYSTEM

EQUIPMENT Notes Outstanding December 31, 1920

Series	Principal Outstanding	Annual Payment Principal	Annual Payment Interest
Imperial Rolling Stock Company, Limited—			
Series "A-1"	$ 188,000 00	$ 188,000 00	$ 4,230 00
" "B-1"	150,000 00	150,000 00	5,073 75
" "C-1"	330,000 00	220,000 00	12,375 00
" "D-1"	495,000 00	330,000 00	18,562 50
" "E-1"	420,000 00	210,000 00	16,537 50
" "F-1"	1,060,000 00	420,000 00	42,975 00
" "G-1"	275,000 00	110,000 00	11,137 50
" "H-1"	230,000 00	80,000 00	10,500 00
" "K-1"	845,000 00	210,000 00	39,625 00
" "L-1"	788,000 00	132,000 00	37,750 00
Canadian Northern Rolling Stock, Co., Limited—			
Series "A"	3,500,000 00	450,000 00	210,000 00
" "B"	6,000,000 00	750,000 00	348,750 00
" "C"	6,375,000 00	750,000 00	371,250 00
" "D"	6,750,000 00	750,000 00	393,750 00
Canadian National Rolling Stock Company—			
Series "E"	14,611,000 00	1,000,000 00	997,500 00
	$42,017,000 00	$5,750 000 00	$2,520,016 25

CANADIAN NATIONAL RAILWAYS—CANADIAN NORTERN RAILWAY SYSTEM

STATEMENT of Securities Outstanding, showing Securities guaranteed by Dominion Government Securities Guaranteed by Provincial Governments, Securities unguaranteed, Maturities of all issues, Annual Fixed Charges, etc., at December 31, 1920.

—	Date of Maturity	Total Issue	Held by Public	Pledged as Collateral	Annual Interest
		$ cts.	$ cts.	$ cts.	$ cts.
Guaranteed by Dominion Government—					
Canadian Northern Railway	July 10, 1953	9,359,996 72	9,359,996 72	.....	280,799 86
3% 1st Mortgage Debenture Stock					
3½% 1st Mortgage Debenture Stock	July 20, 1958	7,896,588 26	7,896,588 26	.....	276,380 46
4% 1st Mortgage Deb. Stock and Bonds	Sept. 1, 1934	44,866,667 33	17,060,333 33	27,806,334 00	1,794,666 66
7% 20-year Sinking Fund Gold Debenture Bonds	Dec. 1, 1940	25,000,000 00	25,000,000 00	.....	1,750,000 00
Canadian Northera Alberta Railway—					
3½% 1st Mortgage Debenture Stock	April 1, 1962	3,569,996 86	.....	3,569,996 86	124,949 88
3½% 1st Mortgage Debenture Stock	May 4, 1960	3,149,998 66	3,149,998 66	.....	110,249 96
Canadian Northera Ontario Railway.—					
3½% 1st Mortgage Debenture Stock	May 19, 1961	35,770,000 00	34,229,996 87	1,540,003 13	1,251,950 00
		129,613,247 83	96,696,913 84	32,916,333 99	5,588,996 82
Guaranteed by Province of Ontario—					
Canadiaa Northera Ontario Railway—					
3½% 1st Mortgage Debenture Stock (1938)	June 30, 1938	6,724,015 04	6,724,015 40	.....	235,340 54
3½% 1st Mortgage Debenture Stock (1936)	July 10, 1936	1,135,982 19	1,135,982 19	.....	39,759 38
		7,859,997 59	7,859,997 59	.....	275,099 92
Guaranteed by Manitoba Government—					
Canadian Northern Railway—					
4% Consolidated Debenture Bonds	June 30, 1930	10,784,046 66	10,784,046 66	.....	431,361 87
4% Ontario Division Bonds	June 30, 1930	5,666,746,66	5,666,746 66	.....	226,669 86
4½% Ontario Division Bonds	June 30, 1930	78,840 00	78,840 00	.....	3,547 80
4% Winnipeg Terminal Bonds	July 1, 1939	3,000,000 00	3,000,000 00	.....	120,000 00
4% 1st Mortgage Debenture Stock	June 30, 1930	4,319,998 86	2,859,998 87	1,460,000 00	172,799 90
4½% Canadian Northern Manitoba Railway Bonds	June 30, 1930	160,680 00	.....	160,680 00	7,230 60
4% Sifton Branch Line Bonds	Feb. 1, 1929	1,137,340 00	1,137,340 00	.....	45,493 60
4% Gilbert Plains Branch Bonds	Nov. 1, 1930	2,433 33	2,433 33	.....	97 33
4% Manitoba & S. E. Railway Bonds	Feb. 1, 1920	512,460 00	512,460 00	.....	20,498 40
		25,662,545 51	24,041,865 52	1,620,680 00	1,027,699 36

CANADIAN NATIONAL RAILWAYS—CANADIAN NORTHERN RAILWAY SYSTEM—*Concluded*

STATEMENT of Securities Outstanding, etc.—*Concluded*

—	Date of Maturity	Total Issue	Held by Public	Pledged as Collateral	Annual Interest
		$ cts.	$ cts.	$ cts.	$ cts.
Guaranteed by Saskatchewan Government—					
Canadian Northern Railway—					
4% 1st Mortgage Debenture Stock and Bonds	Jan. 23, 1939	13,709,399 99	8,029,999 99	5,679,400 00	548,375 98
Canadian Northern Saskatchewan Railway—					
4½% 1st Mortgage Debenture Stock and Bonds	Dec. 19, 1943	1,174,813 33	.....	1,174,813 33	52,866 60
4½% 1st Mortgage Debenture Stock	Dec. 19, 1943	486,666 66	.....	486,666 66	21,900 00
		15,370,879 98	8,029,999 99	7,340,879 99	623,142 58
Guaranteed by Alberta Government—					
Canadian Northern Railway—					
4% 1st Mortgage Debenture Stock	Feb. 25, 1939	9,726,364 26	5,586,665 66	4,139,698 60	389,054 56
Canadian Northern Western Railway—					
4½% 1st Mortgage Debenture Stock and Bonds	Feb. 16, 1942	6,424,000 00	6,424,000 00	.....	289,080 00
4½% 1st Mortgage Debenture Stock and Bonds	Oct. 22, 1943	2,799,997 73	2,799,997 73	.....	125,999 90
		18,950,361 99	14,810,663 39	4,139,698 60	804,134 46
Guaranteed by British Columbia Government—					
Canadian Northern Pacific Railway—					
4% 1st Mortgage Debenture Stock	April 2, 1950	20,999,997 59	16,412,001 13	4,587,996 46	839,990 90
4% Terminal Debenture Stock	April 2, 1950	8,614,000 00	8,614,000 00	.....	387,630 00
4½% Branch Lines Stock	Aptil 2, 1950	5,543,527 54	.....	5,543,527 54	249,458 74
4½% Second Charge Stock	April 2, 1950	4,999,998 73	.....	4,999,998 73	224,999 94
		40,157,523 86	25,026,001 13	15,131,522 73	1,702,079 58
Total Provincial Guarantees	.....	108,001,308 93	79,768,527 61	28,232,781 32	4,432,155 90
Unguaranteed Securities—					
Canadian Northern Railway—					
4% Perpetual Consolidated Debenture Stock	Perpetual	62,154,122 33	44,943,019 40	17,211,102 93	2,486,164 88
4% 1st Mortgage Pas Mission Bonds	April 15, 1939	880,000 00	.....	880,000 00	35,200 00
4½% 1st Mortgage Gunfliat Bonds	June 30, 1930	641,400 00	.....	641,400 00	28,863 00
4½% Prince Albert Branch Bonds	June 30, 1930	518,000 00	300,000 00	218,000 00	23,310 00
Canadian Northern Ontario Railway—					
4% Perpetual Consolidated Debenture Stock	Perpetual	12,658,910 51	9,083,628 47	3,575,282 05	506,356 42
Central Ontario Railway—					
5% 1st Mortgage Bonds	Jan. 1, 1934	833,660 00	833,660 00	.....	41,683 00
Bay of Quinte Railway—					
5% 1st Mortgage Bonds	Jan. 2, 1927	780,000 00	780,000 00	.....	39,000 00

Canadian Northern Quebec Railway—					
4% Perpetual Debenture Stock	Perpetual	5,435,127 39	5,250,369 26	184,758 13	217,405 09
Great Northern Railway of Canada—					
4% Bonds	Oct. 1, 1934	3,505,750 00	3,505,750 00	.....	140,230 00
Quebec and Lake St. John Railway—					
4% 1st Mortgage Debenture Stock	Perpetual	4,486,813 60	4,359,014 94	127,798 67	179,472 54
5% 1st Mortgage Bonds	Dec. 31, 1924	31,390 00	.....	31,390 00	1,569 50
Duluth, Winnipeg & Pacific Railway—					
4% 1st Mortgage Stock	June 1, 1939	8,062,913 27	7,011,323 93	1,051,589 34	322,516 53
Halifax and South Western Railway—					
3½% First Mortgage Bonds	Sept. 30, 1942	5,663,666 66	4,447,000 00	1,216,666 66	198,228 32
Niagara, St. Catharines and Toronto Railway—					
5% 1st Mortgage Bonds	Nov. 1, 1929	1,454,000 00	1,098,000 00	356,000 00	72,700 00
5% 2nd Mortgage Bonds	Nov. 1, 1929	536,500 00	.....	536,500 00	26,825 00
Qu'Appelle, Long Lake and Saskatchewan Railway and Steamboat Co.—					
4% 1st Mortgage Stock	July 1, 1936	5,019,539 86	5,019,539 86	.....	200,781 59
Mount Royal Tunnel and Terminal Co., Ltd.—					
5% 1st Mortgage Bonds	April 15, 1970	11,346,146 66	2,153,013 33	9,193,133 33	*571,589 99
James Bay and Eastern Railway—					
5% 1st Mortgage Bonds	Sept. 1, 1945	300,000 00	.....	300,000 00	15,000 00
Minnesota and Manitoba Railway—					
4% 1st Mortgage Bonds	June 30, 1931	349,000 00	349,000 00	.....	13,960 00
Toronto Suburban Railway—					
4½% 1st Mortgage Debenture Stock	July 15, 1961	2,628,000 00	2,628,000 00	.....	118,260 00
Land Securities—					
Canadian Northern Railway—					
4% Land Grant Bonds (1909)	July 1, 1938	1,057,526 72	1,057,526 72	.....	42,301 06
5% Land Mortgage Debentures	June 1, 1923	16,921,886 66	7,188,553 34	9,733,333 32	846,094 33
Total unguaranteed	.....	145,264,353 66	100,007,399 25	45,256,954 43	6,127,511 25
Grand total	.....	382,878,910 42	276,472,840 70	106,406,069 72	16,148,663 97
In addition to the above the following are authorized and issued:—					
(*a*) Canadian Northern Railway—					
5% Income Charge Convertible Debenture Stock	.....	24,999,400 00	24,139,007 40	860,392 60	
(*b*) Imperial Rolling Stock Co. Ltd., Equipment Trusts	.....	4,781,000 00			
Canadian Northern Rolling Stock Co. Ltd., Equipment Trusts	.....	22,625,000 00			
Canadian National Rolling Stock Co. Equipment Trusts	.....	14,611,000 00			
Land Grants—					
C.N.Q. Ry. Land grant 391,460 acres $1,174,380 00					
C.N.O. Ry. Land grant 2,000,000 acres 4,536,931 00					
$5,711,311 00					

*Note.—Interest on bonds redeemed for Sinking Fund has to be paid.

CANADIAN GOVERNMENT RAILWAYS

REPORT OF W. A. KINGSLAND, GENERAL MANAGER, FOR NINE MONTHS ENDED DECEMBER 31, 1920.

Intercolonial Railways

CAPITAL ACCOUNT

The cost of the road and equipment on March 31, 1920		$140,991,709 07
The expenditure during the nine months ended December 31, 1920		2,752,984 40
Making the total cost on December 31, 1920		$143,744,693 47
The gross earnings and working expenses for the nine months ended December 31, 1920, compare as follows—		
Gross earnings—I.C.R. rail account		$ 23,633,500 74
Water account		23,129 99
		$23,656,630 73
Working expenses—I.C.R. rail account	$26,651,758 09	
Water account	52,889 78	
	$26,704,647 87	
New Brunswick and Prince Edward Island Railway (interest)	3,540 00	
		$ 26,708,187 87
Working expenses over gross earnings (efficiency)		$ 3,051,557 87

Revenue

The earnings per train mile compare as follows:—

1919-1920	3.43
Nine months ended December 31, 1920	3.74

Working Expenses

The averages, not including water lines compare with those of last year, as follows:—

Per mile run by engine in 1919-20	2.75
Per mile run by engine nine months ended December 31, 1920	2.88
Per mile run by train 1919-20	3.74
Per mile run by train nine months ended December 31, 1920	3.74

The mileage of the railway for the nine months ended December 31, 1920, was 1,670.38 miles, including Vale Railway (5.96 miles), N.B. and P.E.I. Railway (36.05 miles) and International Railway (105.73 miles).

Stores

The value of general stores in the Canadian Government Railways carried over from the previous years was	$ 8,146,993 24
The value of stores purchased and charged from other departments was	25 039,389 18
Total of	$ 33,186 382 42
The value of stores used and sold	23,428,962 02
Balance of general stores on hand December 31, 1920	$ 9,757,420 40

Prince Edward Island Railway

The length of railway in operation at December 31, 1920, was 275.99 miles. The gauge is 3 feet 6 inches. On 61.00 miles of railway there is multiple rail laid for standard gauge.

The cost of road equipment to March 31, 1920	$ 12,749,112 00
The expenditure during nine months ended December 31, 1920	56,924 27
Making the total cost on December 31, 1920	$ 12,806,036 27
Gross earnings	$ 750,973 63
Working expenses	1,329,349 19
Deficiency	$ 578,375 56

New Brunswick and Prince Edward Island Railway

The cost of road and equipment to March 31, 1920, was..	$	529,381 32
The expenditure during nine months ended December 31, 1920, was		88,933 54
Making the total cost on December 31, 1920..	$	618,314 86

An amount of $3,540 was paid as interest.

This railway is included in the operation of the Intercolonial railway.

International Railway of New Brunswick

The cost of road and equipment to March 31, 1920, was..	$	2,858,394 69
The expenditure during nine months ended December 31, 1920, was..		37,959 74
Making the total cost on December 31, 1920..	$	2,896,354 43

This railway is included in the operation of the Intercolonial Railway.

National Transcontinental Railway

This line extends from Moncton to Winnipeg and is 2,006.73 miles in length, which includes the Grand Trunk Pacific Branch Line from Fort William to Superior Junction.

The cost of the National Transcontinental Railway to March 31, 1920, was	$166,698,645 64
Expenditure during nine months ended December 31, 1920..	1,113,921 91
Making the total cost on December 31, 1920..	$167,812,567 55
The gross earnings and working expenses to December 31, 1920, compare as follows—	
Gross earnings..	$ 11,853,128 70
Working expenses (including $450,000 rental Lake Superior Branch)..	14,579,155 76
Deficiency..	$ 2,726,027 06

Moncton and Buctouche Railway

This railway extends from Moncton to Buctouche and is 29.93 miles in length.

The expenditure on capital accounts to March 31, 1920..	$	100,031 53
The expenditure during nine months ended December 31, 1920..		49,584 22
Making the total cost on December 31, 1920..	$	149,615 75
Gross earnings..	$	47,251 95
Working expenses..		76,312 92
Deficiency..	$	29,060 97

Salisbury and Albert Railway

This railway extends from Salisbury to Albert and is 44.77 miles in length.

The expenditure on capital account to March 31, 1920..	$	127,782 71
The expenditure during nine months ended December 31, 1920..		87,606 39
Making the total cost to December 31, 1920..	$	215,389 10
Gross earnings..	$	59,187 46
Working expenses..		126,934 16
Deficiency..	$	67,746 70

Elgin and Havelock Railway

This railway extends from Petitcodiac to Havelock and from Petitcodiac to Elgin and is 26.11 miles in length.

The expenditure on capital account to March 31, 1920..	$	71,440 22
The expenditure during nine months ended December 31, 1920		13,233 93
Making the total cost on December 31, 1920..	$	84,674 15
Gross earnings..	$	14,776 51
Working expenses..		53,992 81
Deficiency..	$	39,216 30

St. Martin's Railway

This railway extends from Hampton to St. Martins and is 28.73 miles in length.

The expenditure on capital account to March 31, 1920	$ 124,949 23
The expenditure during nine months ended December 31, 1920	92,364 42
Making the total cost on December 31, 1920	$ 217,313 65
Gross earnings	$ 22,070 77
Working expenses	62,714 39
Deficiency	$ 40,643 62

York and Carleton Railway

This railway extends from Cross Creek to Stanley and is 5.46 miles in length.

The expenditure on capital account to March 31, 1920	$ 21,208 94
The expenditure during nine months ended December 31, 1920	838 91
Making the total cost on December 31, 1920	$ 22,047 85
Gross earnings	$ 5,687 38
Working expenses	$ 22,646 06
Deficiency	$ 16,958 68

Quebec and Saguenay Railway

This railway extends from St. Joachim to Murray Bay and is 62.31 miles in length.

The expenditure on capital account to March 31, 1920	$ 253,613 00
The expenditure during nine months ended December 31, 1920	333,816 50
Making the total cost on December 31, 1920	$ 587,429 50
Gross earnings	$ 30,890 99
Working expenses	$ 44,598 93
Deficiency	$ 13,707 94

Caraquet and Gulf Shore Railway

This railway extends from Gloucester Junction to Tracadie and is 80.01 miles in length.

The expenditure on capital account for nine months ended December 31, 1920	$ 79,600 00
Gross earnings	$ 72,725 29
Working expenses	106,121 41
Deficiency	$ 33,396 12

Lotbinère and Megantic Railway

This railway extends from Lyster to Deschaillons and is 29.59 miles in length.

The expenditure on capital account for nine months ended December 31, 1920	$ 9,840 00
Gross earnings	$ 22,001 27
Working expenses	$ 43,171 86
Deficiency	$ 21,170 59

Cape Breton Railway

This railway extends from Point Tupper to St. Peters and is 30.64 miles in length.

Gross earnings	$ 9,655 66
Working expenses	24,432 31
Deficiency	$ 14,776 65

Hudson Bay Railway

This railway extends from The Pas, a distance of 243 miles.

Gross earnings	$ 97,652 15
Working expenses	149,237 32
Deficiency	$ 51,588 17

St. John and Quebec Railway

The gross earnings and working expenses for nine months ended December 31, 1920, compare as follows:—

Gross earnings	$ 171,717 21
Working expenses	360,009 13
Deficiency	$ 188,291 92
In addition to the above amount (40 per cent of gross earnings) charged to rental was	$ 84,106 98
Total deficit	$ 272,398 90

Statement Showing Miscellaneous Rolling Stock Charged Against Rolling Stock Vote.

For nine months ended December 31, 1920—		
Locomotives		$ 8,820 60
Freight cars—		
Auto cars (converted)		24,101 55
Passenger—		
Excursion cars (converted)	$ 7,705 12	
Baggage (converted)	11,770 13	
Parlour cafe cars (converted)	16,257 36	
Lunch counter cars (converted)	883 95	
Buffet parlour cars (converted)	1,060 00	
	$37,676 53	
Less credit baggage and smokers (converted)	7,323 53	
		30,353 00
Work equipment		412,167 94
Miscelaneous		318,864 49
		$794,307 58

Fatal Accidents

The number of fatal accidents on the Canadian Government Railways amounted to fifty, of which twenty-seven were employees three passengers and twenty others, the railways being exonerated in forty-seven cases.

STATEMENT of Averages, Nine Months

		Intercolonial Railway	P.E. Island Railway	National Transcontin'tl Railway	Moncton & Buctouche Railway	Elgin and Havelock Railway
1	Mileage of railway	1,669.54	276.29	2,006,58	29.93	26 11
2	Total engine mileage	8,211,100	379,245	3,489,972	17,203	14,668
3	Total train mileage	6,315,429	302,317	2,967,952	15,362	12,783
4	Total car mileage	105,594,280	2,312,750	80,327,572	100.686	36,601
	Earnings—	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
5	Transportation—rail	22,282,356 17	747,366 01	11,712,123 06	47,251 95	14,776 51
6	" water	23,129 99	.....	.....	.....	.....
7	Incidentals	1,351,144 57	3,607 62	141,005 64	.....	.....
	Total	23,656,630 73	750,973 63	11,853,128 70	47,251 95	14,776 51
	Operating Expenses—					
9	Transportation—rail	26,655,298 09	1,329,349 19	14,579,155 76	76,312 92	53,992 81
10	Transportation—water	52,889 78	.....	.....	.....	.....
11	Total	26,708,187 87	1,329,349 19	14,579,155 76	76,312 22	53,992 81
	Ratio of Earnings to Gross Earnings—	p.c.	p.c.	p.c.	p.c.	p.c.
12	Earnings from transportation—rail	94 19	99.52	98 81	100 00	100.00
13	" " water	0 10	.....	.....	.....	.....
14	" Incidentals	5 71	0 48	1.19	.....	.....
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
15	Earnings per mile of railway	14,155 70	2,718 06	5,907 13	1,578 75	565 93
16	" engine mile	2 88	1 98	3 40	2 75	1 01
17	" train mile	3 74	2 48	3 99	3 08	1 16
18	" car mile	22 38	32 47	14 76	46 93	40 37
		p.c.	p.c.	p.c.	p.c.	p.c.
19	Ratio of expenses to gross earnings—rail	112 79	177.02	123 00	161.50	365 40
20	" " " water	228.66	.....	.....	.....	.....
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
21	Expenses per train mile	4 22	4 40	4.91	4 97	4 22
22	Expenses per mile of railway	15,965 65	4,811 43	7,265 67	2,549 71	2,067 90
23	Repairs of locomotives	1,963,208 79	65,273 84	982,021 78	2,916 30	2,098 33
24	" freight cars	1,531,295 85	27,218 54	1,383,904 10	1,053 03	426 44
25	" passenger cars	981,394 46	38,743 26	448,560 69	2,112 65	622 03
26	Cost of repairs per locomotive	4,641 15	2,417 55	4,767 10	1,458 15	2,098 33
27	" " freight car	113 86	43 55	120 80	105 31	42 64
28	" " passenger car	1,575 27	2,152 40	1,958 78	1,056 32	622 03

(a) Quebec & Saguenay track mileage 62 80, average for 3 months operated 20 93.
(b) Caraquet & Gulf Shore track mileage 84 00, average for 7 months operated 65 33.
(c) Cape Breton track mileage 31 00, average for 6 motnhs operated 20 67.

SESSIONAL PAPER No. 20

RAILWAYS

Ending December 31, 1920.

Hampton and St. M. Railway	York and Carlton Railway	Salisbury and Albert Railway	Quebec and Saguenay Railway	Lotbin're and Megantic Railway	Cara. and G. S. Railway	Cape Breton Railway	Hudson Bay Railway	Canadian Government Railway	St. John and Quebec Railway	
28 73	6 25	44 77	(a) 20 93	29 55	(b) 65 33	(c) 20 67	243 00	4,467 68	172 07	1
15 363	10 119	36 258	9 737	16 164	37,178	11,515	.....	12,248,522	124,314	2
14,037	5,688	32,657	9,567	14,220	33,689	9,796	(d)	9,733,506	116,339	3
49,494	13,719	195,133	70,070	60,951	220,660	28,080	.....	189,009,996	696,448	4
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
22,070.77	5,687 38	59,187 46	30,890 99	22,001 27	72,725 29	9,655.66	97,652 15	25,123,744 67	.....	5
.....	.....	.....	.....	.....	.....	.....	.....	23,129 99	171,717 21	6
.....	.....	.....	.....	.....	.....	.....	.....	1,495,757 83	.....	7
22,070 77	5,687 38	59,187 46	30,890 99	22,001 27	72,725 29	9,655 66	97,652 15	36,642,632 49	171,717 21	8
62,714 39	22,646 06	126,934 16	44,598 93	43,171 86	106,121 41	24,432 31	149,237 32	43,273,965 21	444,116 11	9
.....	.....	.....	.....	.....	.....	.....	.....	52,889 78	.....	10
62,714 39	22,646 06	126,934 16	44,598 93	43,171 86	106,121 41	24,432 31	149,237 32	43,326,854 99	444,116 11	11
100 00	100 00	100 00	100 00	100 00	100 00	100 00	100 00	95 86	100 00	12
.....	.....	.....	.....	.....	.....	.....	.....	0 06	.....	13
.....	.....	.....	.....	.....	.....	.....	.....	4 08	.....	14
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
768 21	909 98	1,322 03	1,475 92	744 54	1,113 20	467 13	401 86	8,196 54	997 95	15
1 4,	0 56	1 63	3 17	1 36	1 96	0 84	.....	2 98	1 48	16
1 57	1 00	1 81	3 23	1 55	2 16	0 99	(d)	(e) 3 75	1 48	17
44 59	41 46	30 33	44 09	36 10	32 96	34 39	.....	19 32	24 66	18
p.c.	p.c.	p.c	p.c.	p.c.	p.c.	p.c	p c.	p.c.	p.c.	
284 15	298 18	214 46	144 38	196 22	145 92	253 04	152 83	118 17	258 63	19
.....	.....	.....	.....	.....	.....	.....	.....	228 66	.....	20
$ cts.	$ cts.	$ cts.	$ cst.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
4 47	3 98	3 89	4 66	3 04	3 15	2 49	(d)	(e) 4 43	3 82	21
2,182 89	3,623 37	2,835 25	2,130 86	1,460 98	1,624 39	1,182 02	614 15	9,686 00	2,581 02	22
3,095 93	1,382 86	5,582 93	2,170 90	2,244 10	6,067 71	1,595 74	6,917 84	3,044,577 05	16,344 70	23
663 21	90 10	2,702 80	835 55	420 72	3,130 27	161 65	336 76	2,952,239 05	87 64	24
688 77	304 73	1,991 26	1,668 08	1,855 12	3,085 18	991 61	.....	1,482,017 84	367 08	25
3,095 93	1,382 86	2,791 46	547 72	1,122 05	1,516 93	1,595 74	(d)	4,506 91	1,816 08	26
82 90	12 87	40 95	33 42	42 07	44 72	10 78	.....	114 63	.....	27
344 38	304 73	995 63	278 01	927 56	514 20	991 61	.....	1,659 59	(f)	28

(d) No engine, train nnd car mileage returned for Hudson Bay railway.
(e) Does not include Hudson Bay reailway.
(f) Included in Intercolonial Railway.

Summary of the Passenger and Freight Traffic of the Canadian Government

		Intercolonial Railway	Prince Edward Island Railway	Transcontinental Railway	M. & B. Railway	S. & A Railway	E. & H Railway
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
1	Passenger traffic	5,790,154 75	224,781 63	2,143,995 24	19,480 45	8,938 50	4,429 14
2	Freight traffic	15,306,360 92	476,324 46	9,422,650 04	28,024 23	53,007 94	10,789 73
3	Mails and express	1,185,840 50	46,259 92	145,477 78	1,489 98	2,974 91	1,265 54
4	Miscellaneous	110,692 67	18,991 25	78,404 98	169 31	157 50	.....
5	Total	22,393,048 84	766,357 26	11,790,528 04	49,163 97	65,078 85	16,484 41
6	Ocean service	23,129 99	.....	.....	.....	.....	.....
7	Total	22,416,178 83	766,357 26	11,790,528 04	49,163 97	65,078 85	16,484 41
8	Income account, rental	less 12,259 65	681 14	less 91,436 94	158 38	164 31	.....
9	Total	22,403,919 18	767,038 40	11,699,091 10	49,322 35	65,243 16	16,484 41
10	Hire of equipment	1,252,711 55	less 16,064 77	154,037 60	less 2,070 40	less 6,055 70	less 1,707 90
11	Net revenue	23,656,630 73	750,973 63	11,853,128 70	47,251 95	59,187 46	14,776 51
	Passenger Statement						
	Local traffic—						
12	Number of passengers	3,802,265	283,867	1,056,507	27,742	10,918	12,575
13	Mileage	146,730,903	6,848,899	34,485,499	645,856	263,447	136,022
	Through traffic—						
14	Number of passengers	278,056	37,041	111,999	.....	16	3
15	Mileage	57,393,719	1,884,580	45,667,460	.....	580	39
16	Total number of passengers	4,080,321	320,908	1,168,506	27,742	10,934	12,578
17	Total mileage	204,124,622	8,733,479	80,152,959	645,856	264,027	136,061
	Freight Statement						
	Local traffic—						
18	Tons	2,709,831	50,764	641,132	17,436	44,105	9,022
19	Mileage	507,318,490	2,079,138	187,478,404	407,557	1,145,152	106,204
	Through traffic—						
20	Tons	3,137,432	138,751	3,095,481	1,524	14,687	855
21	Mileage	912,024,176	8,044,547	967,526,222	43,963	382,569	11,241
22	Total tons	5,847,363	189,515	3,736,613	18,960	58,792	9,877
23	Total mileage	1,419,342,676	10,123,685	1,155,004,626	451,520	1,527,721	117,445

RAILWAY AND ST. JOHN AND QUEBEC RAILWAY FROM APRIL 1 TO DECEMBER 31, 1920.

St. Martins Railway	York and Carleton Railway	Cape Breton Railway	C & G S. Railways	Q. & S Railway	L. & M. Railway	Hudson Bay Railway	Canadian Government Railway	St. John and Quebec Railway	
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
5,387 93	2,609 95	4,529 56	23,929 40	8,444 10	4,022 43	16,892 46	8,257,054 85	75,160 74	1
17,717 57	4,304 05	4,557 56	51,215 79	19,327 23	18,169 54	79,632 69	25,492,081 75	128,269 21	2
886 94	113 28	723 54	1,521 35	3,527 45	566 40	.....	1,390 647 59	5,933 65	3
115 03	.....	.....	125 00	110 00	.....	1,127 00	209,892 74	809 36	4
24,107 47	6,486 28	9,810 66	76,791 54	31,409 09	22,758 37	97,652 15	35,349,676 93	210,172 96	5
.....	.....	.....	.....	.....	.....	.....	23,129 99	.....	
24,107 47	6,486 28	9,810 66	76,791 54	31,409 09	22,758 37	97,652 15	35,372,805 92	210,172 96	7
.....	.....	.....	.....	less 518 10	.....	.....	less 103,210 86	94 51	8
24,107 47	6,486 28	9,810 66	76,791 54	30,890 99	22,758 37	97,652 15	35,269,596 06	210,267 47	9
less 2,036 70	less 798 90	less 155 00	less 4,066 25	.....	less 757 10	.....	1,373,036 43	less 38,550 26	10
22,070,77	5,687 28	9,655 66	72,725 29	30,890 99	22,001 27	97,652 15	36,642,632 49	171,717 21	11
9,976	9,085	5,780	14,290	3,114	8,040	.....	5,244,159	66,117	12
165,862	52,746	121,514	593,356	59,652	112,150	.....	190,215,906	2,330,130	13
4	4	368	22	3,777	133	.....	431,423	1,226	14
120	26	10,941	1,238	74,332	3,614	.....	105,136,649	88,213	15
9,980	9,089	6,148	14,312	6,891	8,173	.....	5,675,582	67,343	16
165,982	52,772	132,455	594,594	233,984	115,764	.....	295,352,555	2,418,343	17
14,966	6,001	2,706	18,447	1,091	7,064	.....	3,522,565	33,294	18
259,161	35,508	69,069	914,071	40,695	73,768	.....	699,927,217	1,272,120	19
332	1,348	92	353	9,865	7,210	.....	6,408,030	52,978	20
9,754	8,069	2,858	20,108	520,337	110,726	.....	1,888,704,400	2,629,264	21
15,298	7,349	2,798	18,800	10,956	14,274	.....	9,930,595	86,272	22
268,735	43,577	71,927	934,179	561,032	184,494	.....	2,588,631,617	3,901,384	23

CANADIAN GOVERNMENT RAILWAYS

Summary of Revenue and Expenses, Nine Months Ended December 31, 1920

	Revenue	Expenses	Deficit
	$ cts.	$ cts.	$ cts.
Intercolonial Railway	23,656,630 73	26,708,187 87	3,051,557 14
Prince Edward Island Railway	750,973 63	1,329,349 19	578,375 56
Transcontinental Railway—Eastern Lines	6,056,222 27	8,250,576 69	2,194,354 42
Transcontinental Railway—Western Lines	5,796,906 43	6,328,579 07	531,672 64
Moncton and Buctouche Railway	47,251 95	76,312 92	29,060 97
Elgin and Havelock Railway	14,776 51	53,992 81	39,216 30
St. Martins Railway	22,070 77	62,714 39	40,643 62
York and Carleton Railway	5,687 38	22,646 06	16,958 68
Salisbury and Albert Railway	59,187 46	126,934 16	67,746 70
Lotbiniere and Megantic Railway	22,001 27	43,171 86	21,170 59
Caraquet and Gulf Shore Railway	72,725 29	106,121 41	33,396 12
Cape Breton Railway	9,655 66	24,432 31	14,776 65
Quebec and Saguenay Railway	30,890 99	44,598 93	13,707 94
Hudson Bay Railway	97,652 15	149,237 32	51,585 17
	36,642,632 49	43,326,854 99	6,684,222 50

CANADIAN GOVERNMENT RAILWAYS

CAPITAL ACCOUNT NINE MONTHS ENDING DECEMBER 31, 1920.

1920	Dr.		$ cts.	$ cts.			$ cts.
	Intercolonial Railway.						
Mar. 31	To Cost of Intercolonial Railway to March 31, 1920		.....	140,991,709 07		By Dominion of Canada	363,274,505 29
	Construction and betterments		2,515,706 50				
	Halifax ocean terminals		181,436 34				
	Exchequer Court awards		69,059 87				
			2,766,202 71				
	Cr.						
	Double track, Moncton-St. John	$ 3,854 56					
	Dams constructed—Riv. du Loup	3,000 00					
	Dartmouth to Deams	45 00					
	Sidings Willow Park	1,964 75					
	Land near Birch Cove	100 00					
	Crossing bell at Belmont	954 00					
	Scrap value nine oil tanks	300 00					
	Canadian Northern generator	3,000 00					
			13,218 31				
				2,752,984 40			
				143,744,693 47			
	Prince Edward Island Railway.						
	To Cost to March 31, 1920		12,749,112 00				
	Construction and betterments		56,924 27				
				12,806,036 27			
	New Brunswick and Prince Edward Island Railway.						
	To Cost to March 31, 1920		529,381 32				
	Construction and betterments		88,933 54				
				618,314 86			
	International Railway.						
	To Cost March 31, 1920		2,858,394 69				
	Construction and betterments		37,959 74				
				2,896,354 43			
	National Transcontinental Railway.						
	To Cost to March 31, 1920		166,698,645 64				
	Construction and betterments		1,101,129 05				
	Pay claims for right of way		20,824 79				
				167,820,599 48			

CANADIAN GOVERNMENT RAILWAYS

CAPITAL ACCOUNT, NINE MONTHS ENDING DECEMBER 31, 1920—*Concluded*

1920	Cr.		$ cts.	$ cts.			$ cts.
	Turtle bridge	6,947 93					
	Land for ballast pit	1,011 00					
	Section houses, St. Maurice	73 00					
			8,031 93				
				167,812,567 55			
	Moncton and Buctouche Railway.						
	To Cost to March 31, 1920		100,031 53				
	Construction and betterments		49,584 22				
				149,615 75			
	Salisbury and Albert Railway.						
	To Cost to March 31, 1920		127,782 71				
	Construction and betterments		87,606 39				
				215,389 10			
	St. Martins Railway.						
	To Cost to March 31, 1920		124,949 23				
	Construction and betterments		92,364 42				
				217,313 65			
	Elgin and Havelock Railways.						
	To Cost to March 31, 1920		71,440 22				
	Construction and betterments		13,233 93				
				84,674 15			
	York and Carleton Railway.						
	To Cost to March 31, 1920		21,208 94				
	Construction and betterments		838 91				
				22,047 85			
	Quebec and Saguenay Railway.						
					1920 Dec. 31	By Dominion of Canada	4,440,062 75
	To Cost to March 31, 1920		253,613 00				
	Construction and betterments		333,816 50				
				587,429 50			
	Caraquet and Gulf Shore Railway.						
	To construction and betterments			79,600 00			
	Lotbiniere and Megantic Railway.						
	To construction and betterments			9,840 00			

Canadian Government Railways.						
To rolling stock to March 31, 1920		38,748,236 94				
Expenditure	797,530 19					
Cr.						
Overcharge on draft arms	3,222 61					
		794,307 58				
			39,542,544 52			
			368,786,521 10			
Less previous year's expenditure:—						
S.S. *Drummond*		550,339 13				
S.S. *McKee*		521,514 11				
			1,071,853 24			
			367,714,567 86			367,714,567 86

CANADIAN GOVERNMENT RAILWAYS

Revenue Account, Nine Months Ended December 31, 1920

Working Expenses			*Earnings*	
Maintenance of way and structure		$10,973,212 88	Freight traffic	$25,492,081 75
Maintenance of equipment		8,498,488 10	Passenger traffic	8,257,054 85
Total		$19,471,700 98	Ocean traffic	23,129 99
Traffic expenses		528,271 93	Mail, express, etc	1,497,329 47
Transportation rail line		21,325,765 74		$35,269,596 06
Transportation water line		52,889 78	Add:	
Miscellaneous operations		622,923 61	Hire of equipment	1,373,036 43
General expenses		871,762 95		$36,642,632 49
Rental leased roads—				
Transcontinental Railway	$450,000 00			
N. B. & P. E. I. Railway	3,540 00			
		453,540 00	Balance	6,684,222 50
		$43,326,854 99		$43,326,854 99

CANADIAN GOVERNMENT RAILWAYS

General Balance, Nine Months Ended December 31, 1920

Dr.		Cr.	
To general stores	$ 9,757,420 40	By Dominion of Canada	$28,987,426 27
Auditors' suspense	408,320 78	Freight in transit	87,583 80
Cash	0 02	Equipment renewals	1,052,421 29
Cash in transit	396,493 52	Canadian Government Railways Provident Fund	539,504 45
Loss and damage freight suspense	55,359 71	Fire renewal account	86,700 71
Rail loan account	153,442 08	Rail renewal account	52,411 38
Station agents	1,058,286 70	Dining and sleeping cars west	67,353 60
War saving and thrift stamps	11,229 12	Government sales tax	9,819 73
Capital suspense—International Railway	2,666 67	Bank of Montreal special account	1,493,716 92
Capital suspense—Vale Railway	49,234 31	Capital suspense—Overseas rails	726,492 03
Branch line aid suspense	138,510 93	Capital suspense—Elgin and Havelock	792 46
Receiver General—Provident fund	3,346,781 07	Capital suspense—York and Carleton	165 18
Restaurant suspense	564 33	Capital suspense—St. Martins	1,736 96
Equipment pool account	386,585 15	Capital suspense—Moncton and Buctouche	5,713 40
Victory Loan suspense	30,994 30	Capital suspense—Salisbury and Albert	2,609 90
Dining and sleeping cars east	9,808 14	Capital suspense—Land at Pictou	1,970 18
Individuals and companies, suspense ledger	65,141 37	Capital suspense—Cape Breton Railway	1,443 89
Individuals and companies ledger	11,382,577 68	Capital suspense—Letbinière and Megantic	3,972 00
Traffic ledger	4,597,460 82	Capital suspense—Caraquet and Gulf Shore	3,929 93
Car service ledger	720,421 17		
Rents ledger	13,873 72		
Advances	82,394 48		
	$33,125,764 08		$33,125,764 08

CANADIAN GOVERNMENT RAILWAYS

General Stores Account, Nine Months Ended December 31, 1920

Debit

To balance March 31, 1920..		$ 8,146,993 24
Purchases during nine months ended December 31, 1920..	$20,582,362 91	
Charges from other departments	4,011,985 97	
Labour	264,639 20	
Staff pay-rolls ..	180,401 10	
		25,039,339 18
		$33,186,382 42

Credit

By issues during 9 months ended December 31, 1920..	$19,981,189 09	
Sales of material fuel, etc	2,645,265 43	
Sales old material	802,507 50	
		$23,428,962 02
Balance—		
Ordinary stores, including fuel.	6,835,351 46	
Roadway and bridge material	2,922,068 94	
		$ 9,757,420 40
		$33,186,382 42

CANADIAN GOVERNMENT RAILWAYS

Statement of Cash Received, Nine Months Ended December 31, 1920

Dr.

To Balance on hand, April 1, 1920	$ 0 02
Amounts deposited during year and credited as follows—	
Station agents..	26,997,116 37
Traffic ledger	6,333,200 69
Car service ledger.. ..	814,072 74
Individual and companies—	
Ledger..	4,164,722 74
Rents' ledger..	58,127 49
General ledger..	904,417 01
	$39,271,657 06

Cr.

By Amounts deposited to the credit of the Honourable Receiver-General of Canada during nine months ended December 31, 1920..	$39,271,657 04
Leaving a balance on hand..	0 02
	$39,271,657 06

CANADIAN GOVERNMENT RAILWAYS

Rail Renewal Account—Nine Months ended December 31, 1920

On April 1, 1920, there was a balance to the credit of the rail renewal account of..	$52,411 38
Nothing has been charged during the year against the above amount.	
Leaving a credit balance to the credit of the rail renewal account on December 31, 1920, of..	$52,411 38

CANADIAN GOVERNMENT RAILWAYS

Fire Renewal Account—Nine Months ended December 31, 1920

On April 1, 1920, there was a balance to the credit of the fire renewal account of.	$127,144 90
There has been charged during the year against the above amount..	40,444 19
Leaving a credit balance to the credit of the fire renewal account on December 31, 1920, of..	$ 86,700 71

CANADIAN GOVERNMENT RAILWAYS

Equipment Renewal Account—Nine Months Ended Decemrer 31, 1920

	Dr.	Cr.
There was a credit balance at April 1, 1920, to the credit of equipment renewal account of..	.....	$1,055,972 34
Cash received from sale of old rolling stock..	.....	83,615 12
		$1,139,587 46
There has been charged during the year against the above account for rolling stock repaired and changed— Changing twenty hospital cars to baggage and smoking cars..	$ 87,166 17	$ 87,166 17
Leaving a credit balance to the credit of equipment renewal account on December 31, 1920, of..		$1,052,421 29

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY

Rental Account— Nine Months Ended December 31, 1920

1920 Dec. 31.	To interest from December 1, 1919, to December 1, 1920..	$3,540 00	1920. Dec. 31. By Dominion of Canada..	$3,540 00

NATIONAL TRANSCONTINENTAL RAILWAY

Rental Account—Nine Months Ended December 31, 1921

Dr.			Cr.	
1920 Dec. 31.	To amount paid Grand Trunk Pacific Railway for rental of Lake Superior Branch, from April 1, 1920, to December 31, at $50,000 per month. ..	$450,000 00	1920 Dec. 31. By Dominion of Canada..	$450,000 00
		$450,000 00		$450,000 00

SAINT JOHN AND QUEBEC RAILWAY

Revenue Account—Nine Months Ended December 31, 1920

Expenditure		*Earnings*	
Maintenance of way and structures..	$220,799 08	Freight..	$128,269 21
Maintenance of equipment. ..	17,091 95	Passenger..	75,160 74
Traffic..	2,611 07	Mails, Express, etc..	6,837 52
Transportation rail line.	116,314 97		$210,267 47
General..	3,192 06	Less:	
	$360,009 13	Hire of equipment..	38,550 26
Rental..	84,106 98		$171,717 21
		Balance..	$272,398 90
	$444,116 11		$444,116 11

SAINT JOHN AND QUEBEC RAILWAY

General Balance—Nine Months Ended December 31, 1920

Dr.		Cr.	
To Stores Department..	$ 2,590 94	By Government Sales Tax. ..	$ 1 12
Individuals and companies' ledger	15,105 17	St. John and Quebec Ry. Co. suspense rental	33,317 14
Traffic ledger..	17,156 24	Bank of Montreal special account..	60,566 63
Rents ledger..	70 00		
Auditor's suspense..	2,978 37		
Cash in transit..	1,464 34		
Station agents...	3,088 51		
Dominion of Canada.	51,431 32		
	$93,884 89		$93,884 89

SAINT JOHN AND QUEBEC RAILWAY

Statement of Cash Recceived—Nine Months Ended Decemrr 31, 1920

Dr.		Cr.	
To Balance on hand, April 1, 1920..	Nil	By Amounts deposited to credit of the Honourable Receiver-General during nine months ending December 31, 1920..	$206,987 01
Station agents..	$185,910 46		
Rents ledger..	225 40		
Traffic ledger..	13,779 42		
I. & C. ledger..	7,071 73		
	$206,987 01		$206,987 01

SAINT JOHN AND QUEBEC RAILWAY

General Stores Account—Period Ending Decemrer 31, 1920

Debit		Credit	
Purchase during period ended December 31, 1920..	$76,476 84	By Balance, March 31, 1920...	$ 50 89
Charges from other departments..	2,380 02	By issue during period ended December 31, 1920..	76,215 03
		Balance, December 31, 1920 ..	2,590 94
	$78,856 86		$78,856 86

S. L. SHANNON,
Comptroller and Treasurer.

G. N. PALMER,
Auditor of Disbursements.

REPORT OF THE AUDITOR OF STORES AND MECHANICAL ACCOUNTS

General Statement of the Work done in the Canadian Government Railway Shops for the Nine Months Period, March 31 to December 31, 1920

Locomotive department—	
Locomotives rebuilt	Nil
" repaired	510
" converted to superheater	13
" equipped with latest type electric headlight	38
" equipped with 8½" Cross Compound Pumps	19
" equipped with power reverse gear	2
" equipped with brick arch tubes	55
" equipped with coal pushers	3
" equipped with coal boxes	11
Tender tanks rebuilt	8
Tender frames rebuilt	7
Repairs to work equipment—	
Ditchers and steam shovels	16
Ballast spreader and Lidgerwood	21
Cranes	13
Rotary ploughs	1
Pile drivers	11
Rail loaders	3
Cars remodelled—	
Tourist to baggage	3
Tourist to baggage and smoker	9
Tourist to excursion	10
Tourist to store supply car	2
Dinning to parlor	6
Hospital to express and smoker	18
Postal to second-class and baggage	1
Second-class to auxiliary	1
Flat to fire fighting	1
Flat to auxiliary	1
Flat to gas transport	2
Box to pulp	197
Box to tool car	1
Box to boarding car	19
Cars repaired—	
Passenger cars—Heavy	552
Passenger cars—Light	485
Freight and work cars	14,488
Cars equipped with safety appliances	45
Cars equipped with steel draft arms	903

Cars of all descriptions were kept in proper condition for traffic and were painted and repaired when necessary.

Shop machinery and tools of all points were repaired and kept in good working condition

Safety appliances were kept in good repair and new ones installed where necessary.

Reclamation plant was put in operation at Moncton in July, 1920, and large quantities of material reclaimed and made serviceable.

CANADIAN GOVERNMENT RAILWAY—EASTERN AND WESTERN LINES

STATEMENT Showing the Number of Locomotives and the Various Classes of Other Rolling Stock on the Lines, March 31 1920, and December 31, 1920.

		Passenger Cars														Freight Cars															
	Locomotives	Sleeping	Parlor	Dining	Colonist	1st Class	2nd Class	Postal	Baggage	Hospital	Vision Test	Box Baggage	Air Brake Inspection	Steam Motor	Total Passenger Cars	Box	Refrigerator	Platform	Oil Tank	Pitch Tank	Hopper	Gondola	20-ton Coal	Hart-Otis	Stock	Hart Convertible	Pulpwood	Pit Cars	Eastman Heaters	Caboose	Total Freight Cars
On hand serviceable and repairing, March 31, 1920	767	77	24	27	77	176	109	45	90	20	1	25	1	1	673	16,582	390	2,375	62	20	211	471	6	923	1,245	1,121	851	4	200	391	24,852
To be replaced March 31, 1920	....	2	....	....	....	2	5	2	5	....	....	1	....	....	17	150	15	1,414	....	....	542	166	368	1	16	6	14	....	....	23	2,715
Total Equipment, March 31, 1920	767	79	24	27	77	178	114	47	95	20	1	26	1	1	690	16,73	2 40	5 3,78	9 6	2 2	0 75	3 63	7 37	4 92	4 1,26	1 1,12	7865	4	200	414	27,567
Converted on Capital; Tourist to baggage, 3; to baggage and smoker, 9; dining to parlor, 6; hospital to express and smoker, 18; tourist to excursion, 10; flat to fire fighting, 1	...	....	6	....	10	...	....	....	31	...	....	....	....	....	47	.....	....	.....	....	....	....	.....	....	....	.....	.....	197	....	....	....	197
Converted on Maintenance: Box to pulp, 197; to tool car, 1; to boarding, 19; postal to 2nd class and baggage, 1; 2nd class to auxiliary coach, 1; tourist to store supply, 2; flat to auxiliary, 1; to gas transport, 2	.	...	....	*6*	*24*	..	*1*	*1*	...	*18*	....	...	...	....	*50*	*217*	....	*4*	....	....	...	....	...	...	..	.....	...	....	...	....	*331*
Total equipment to December 31, 1920	767	79	30	21	63	178	113	46	126	2	1	26	1	1	687	6,516	405	3,785	62	20	753	637	374	924	1,261	1,12	1062	4	200	414	27,543
To be replaced March 31, 1920 as above	...	2	...	....	....	2	5	2	5	...	....	1	....	....	17	150	15	1,414	...	....	542	166	368	1	16	6	14	....	....	23	2,715
Condemned (year) period, March 31, 1920, to December 31, 1920	11	....	....	....	....	....	....	....	....	....	....	....	....	1	1	57	9	59	2	....	109	90	....	....	7	3	13	....	1	3	353
Total condemned and destroyed to December 31, 1920	11	2	...	....	...	2	5	2	5	..	....	1	....	1	18	207	24	1,473	2	...	651	256	368	1	23	9	27	....	1	26	3,068
To be replaced December 31, 1920	11	2				2	5	2	5	..		1	....	1	18	207	24	1,473	2	..	651	256	368	1	23	9	27	..	1	26	3,068
Add serviceable and repairing	756	77	30	21	63	176	108	44	121	2	1	25	1	1	659	16,308	381	2,312	60	20	102	381	6	923	1,238	1.118	1035	4	199	388	24·475
Total equipment December 31, 1920	767	79	30	21	63	178	113	46	126	2	1	26	1	1	687	16,515	405	3,785	62	20	753	637	374	924	1,261	1,127	1062	4	200	414	27,643

NOTE.—Figures in italics are deductions.

CANADIAN GOVERNMENT RAILWAYS—EASTERN AND WESTERN LINES—*Concluded*

STATEMENT Showing the Number of Locomotives and the Various Classes of Other Rolling Stock on the Line, March 31, 1920, and December 31, 1920—*Concluded.*

	Work Cars																																				
	Auxiliary	Stores Supply	Business	Pintch Gas	Snow Ploughs—Common	Snow Ploughs—Winged	Snow Ploughs—Rotary	Snow Ploughs—D. track	Snow Ploughs—D. end	Flangers	Steam Cranes	Ballaster Spreaders	Rodgers	Ballast Trimmer	Centre Ballast Ploughs	Side Ballast Ploughs	Ballast Plough unloader	Ballast Spreader—Wing	Concrete Mixer	Sand Blast Machine	Well Boring Machine	Ditchers	Steam Derrick	Hand Derricks	Steam Shovels	Rail Sawing and Boring	Pile Drivers	Survey and Inspection	Scale Car	Rail Unloaders	Wrecking Cars	Steel Air Pump	Boarding Cars	Steel Snow Ploughs	Track Layer	Cinder Cars	Total Work Cars
On hand serviceable and repairing, March 31, 1920	52	4	27	3	52	28	2	3	4	76	35	13	2	15	5	12	2	5	1	1	6	1	7	18	1	4	28	1	5	71	36	1	91	35	1	95	842
To be replaced March 31, 1920	..	..	..	..	1	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Total equipment, March 31, 1920	52	4	27	3	53	28	2	3	4	78	35	13	2	15	5	12	2	5	1	1	6	1	7	18	1	4	28	1	5	71	36	1	91	35	1	95	845
Converted on Capital: tourist to baggage, 3; to baggage and smoker, 9; dining to parlor, 6; hospital to express and smoker, 18; tourist to excursion, 10; flat to fire fighting, 1	4	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	19	..	..	..	27
Converted on Maintenance: box to pulp, 197; to tool car, 1; to boarding, 19; postal to 2nd class and baggage, 1; 2nd class to auxiliary coach, 1; tourist to store supply, 2; flat to auxiliary, 1; to gas transport, 2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....
Total equipment, December 31, 1920	56	6	27	5	53	28	2	3	4	78	35	13	2	15	5	12	2	5	1	1	6	1	7	18	1	4	28	1	5	71	36	2	10	35	1	95	872
To be replaced March 31, 1920, as above	..	..	..	..	1	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Condemned (year) period March 31, 1920 to Dec. 31, 1920	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	14	18
Total condemned and destroyed to December 31, 1920	..	..	..	..	1	..	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	14	21
To be replaced December 31, 1920	..	..	..	..	1	..	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	14	21
Add serviceable and repairing	56	6	27	5	52	28	2	3	4	76	35	12	2	15	5	12	2	5	1	1	6	1	7	18	1	4	28	1	5	71	36	2	07	35	1	81	851
Total equipment, December 31, 1920	56	6	27	5	53	28	2	3	4	78	35	13	2	15	3	12	2	5	1	1	6	1	7	18	1	4	28	1	5	71	36	2	10	35	1	95	872

PRINCE EDWARD ISLAND RAILWAY

STATEMENT Showing the Number of Locomotivee and the Various Classes of Other Rolling Stock on the Line on March 31, 1920, and December 31, 1920

		Passenger Cars						Freight Cars										Work Cars				
	Locomotives	First-class Passenger Cars	Second-class Passenger Cars	Combination Second-class and Baggage Cars	Postal and Smoking Cars	Combination Postal and Baggage Cars	Baggage Cars	Total Passenger Cars	Box Cars	Refrigerator Cars	Stock Cars	Oil Tank Cars	Hart Convertible Cars	Coal Cars	Platform Cars	Cabooses	Total Freight Cars	Dump Cars	Snow Plows	Flangers	Steam Shovel	Total Work Cars
On hand, serviceable and repairing, March 31, 1920	22	19	10	5	3	3	6	46	338	2	28	1	15	10	202	3	599	15	11	0	0	26
To be replaced, March 31, 1920	13	5	4	2	1	1	2	15	5	1	....	....	....	2	5	1	14	....	2	8	1	11
Total equipment, March 31, 1920	35	24	14	7	4	4	8	61	343	3	28	1	15	12	207	4	613	15	13	8	1	37
Total equipment, March 31, 1920	35	24	14	7	4	4	8	61	343	3	28	1	15	12	207	4	613	15	13	8	1	37
Condemned and destroyed, March 31, 1920, to December 31, 1920	1	....	....	....	1	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....
To be replaced March 31, 1920, as above	13	5	4	2	1	1	2	15	5	1	....	....	....	2	5	1	14	....	2	8	1	11
Add serviceable and repairing	21	19	10	5	2	3	6	45	338	2	28	1	15	10	202	3	599	15	11	0	0	26
Total to be replaced	14	5	4	2	2	1	2	15	5	1	....	....	....	2	5	1	14	....	2	8	1	11
Total equipment, December 31, 1920	35	24	14	7	4	4	8	61	343	3	28	1	15	12	207	4	613	15	13	8	1	37

REPORT OF A. F. STEWART, CHIEF ENGINEER

MAIN LINE CHANGES AND NEW LINES PUT INTO OPERATION

Intercolonial Railway.—At Halifax on the Deepwater Terminals Branch a revision was made to the main line, giving a continuous double track with easier grades and alignment through to the Deepwater Terminals.

At Dartmouth, revisions were made to the main line, improving the grades and reducing curvature.

Between Truro and Belmont, the double tracking which was started during 1919 was completed and put into operation on November 18, 1920. The completion of this work added 7·65 miles to the second main line operated mileage.

Between Springhill and Maccan, double tracking started during the year 1919, was completed and put into operation on October 17, 1920. The increase to second main line mileage due to this double tracking was 9·70.

At the west end of Moncton yard a connection between the St. John Subdivision and the Newcastle Subdivision, work on which was commenced during 1919, was put into operation on November 17, 1920. This connection is graded for double track, but at present only single track is laid. With the existing track on the Newcastle Subdivision, and this new connection, double track into Moncton is formed, increasing the second main line mileage by 3·30 miles.

On the Fredericton Subdivision grade and alignment revisions have been undertaken during the past year and at the end of the year traffic had been diverted to the new track on 0·7 miles of line at Taymouth and 0·3 miles at Durham. These diversions involved no change in the length of main line.

Between Bagot and St. Rosalie, double tracking and grade reduction commenced during 1919, which involved a diversion 4·7 miles in length, was completed and put into operation. This diversion and double tracking increased the main line mileage by 0·19 miles and added 10·64 miles to the second main line mileage.

Lotbiniere and Megantic Railway.—This railway, 2,959 miles in length, was purchased by the Dominion Government and taken over for operation on April 1, 1920. The line extends from Lyster to Deschaillons, crossing the Intercolonial Railway at Villeroy, and has been named the Deschaillons Subdivision.

Caraquet and Gulf Shore Railway.—This railway, having a main line mileage of 80·01 miles, was purchased by the Dominion Government and taken over for operation on June 1, 1920. This line leaves the main line of the Intercolonial Railway at Gloucester Junction and terminates at Tracadie. There is also a branch from Pokemouche Junction to Shippegan. From Gloucester Junction to Tracadie has been named the Caraquet Subdivision and from Pokemouche Junction to Shippegan, the Shippegan Subdivision.

Cape Breton Railway.—This railway, extending from Point Tupper to St. Peters, 30·64 miles in length, was purchased by the Dominion Goernment and taken over for operation on July 1, 1920, being named the St. Peters Subdivision.

Quebec and Saguenay Railway.—The completion of construction work on this railway, which has been carried out since its purchase by the Dominion Government, was sufficiently advanced to permit of the railway being put into operation on October 1, 1920. The main line mileage from Quebec to Nairn's Falls, is 92·71 miles, which includes 25·1 miles running rights over the Quebec Railway, Light, Heat and Power Company's track from Quebec to St. Joachim and 5·3 miles from St. Joachim to Cap Tourmente leased from the Quebec Railway, Light, Heat and Power Company.

ROADBED AND TRACK

The operated mileage of Canadian Government Railways on December 31, 1920, was as follows:—

	Main Line	Second Main Line	Passing Sidings	Other Sidings and Spurs	Total
Eastern lines	3,816·75	73·82	318·92	678·35	4,887·84
Western lines	390·54	4·80	35·46	84·04	514·84
Leased lines	203·18	.....	21·77	48·22	273·17
Joint sections and running rights	82·65	37·62	.....	.....	120·27
Totals	4,493·12	116·24	376·15	810·61	5,796·12

ROADBED AND TRACK MILEAGE—*Concluded*

	Inter-colonial Railway	Prince Edward Island Island	New Brunswick and Prince Edward Railway Railway	Inter-national Railway	Moncton and Buctouche Railway	Elgin and Havelock Railway	Hampton and St. Martins Railway	York and Carleton Railway	Salisbury and Albert Railway
Main Line.....Miles	1,482·78	275·99	36·05	105·12	29·93	26·11	28·73	5·46	44·77
2nd Main Line..... "	73·31	.....	.....	.....	.....	.....	.....	.....	.....
Passing Sidings..... "	159·41	7·80	1·72	2·89	0·67	0·48	0·49	.....	1·12
Other Sidings and Spurs..... "	446·97	32·85	5·05	4·01	1·24	0·71	0·77	1·35	3·03
Totals.....	2,162·47	316,64	42·82	112·02	31·84	27·30	29·99	6·81	48·92

	National Trans-con inental Railway	St. John and Quebec Railway	Caraquet and Gulf Shore Railway	Lotbiniere and Megantic Railway	Cape Breton Railway	Quebec and Saguenay Railway	Leased Lines	Joint Sections and Run-ning rights	Total
Main Line.....Miles	1,811·69	158·11	80·01	29·59	30·64	62·31	203·18	82·65	4,493·12
2nd Main Line..... "	5·31	.....	.....	.....	.....	.....	.....	37·62	116·24
Passing Sidings..... "	107,67	5·19	1·52	.....	0·49	1·93	21·77	.....	376·15
Other Sidings and Spurs..... "	284·53	8·07	4·27	3·37	1·55	0·62	48·22	.....	810·61
Totals.....	2,236 20	171·37	85·80	32·96	32·68	64·86	273·17	120·27	5,796·12

WEIGHT OF RAIL IN MAIN TRACK

	Inter-colonial Railway	Prince Edward Island Railway	New Brunswick and Prince Edward Island Railway	Inter-national Railway	Moncton and Buctouche Railway	Elgin and Havelock Railway	Hampton and St. Martins Railway	York and Carleton Railway	Salisbury and Albert Railway
50-lb.	.....	108·06	.....	.....	.....	20·41	.....	.....	.....
56-lb.	16·93	156·16	.....	.....	22·68	1·00	28·43	5·46	32·47
60-lb.	.....	.....	.....	51·30	.....	.....	.....	.....	.....
67-lb.	188·76	0 80	.....	40·86	1·25	4·70	0·30	.....	3·40
67½-lb.	.....	67·30	.....	.....	.....	.....	.....	.....	.....
70-lb.	16·21	.....	.....	.....	.....	.....	.....	.....	.....
72-lb.	.....	.....	.....	.....	.....	.....	.....	.....	2·00
80-lb.	543·92	4·65	36·05	12·27	6·00	.....	.....	.....	6·90
85-lb.	790·27	.....	.....	0·69	.....	.....	.....	.....	.....
Totals	1,556·09*	336·97	36·05	105·12	29·93	26·11	28·73	5·46	44·77

NOTE—*Mileage of rail on Prince Edward Island Railway includes 60·98 miles of track in which there is a third rail for standard gauge trains.

WEIGHT OF RAIL IN MAIN TRACK—*Continued.*

Weight	National Trans-continental Railway	St. John and Quebec Railway	Caraquet and Gulf Shore Railway	Lotbiniere and Megantic Railway	Cape Breton Railway	Quebec and Saguenay Railway	Leased Lines	Joint Sections and Running Rights	Totals
50-lb.	.....	.....	63·62	.....	.....	.....	.....	.....	192·09
56-lb.	.....	.....	16·39	29·59	.....	.....	5·30	.....	314·41
60-lb.	.....	.....	.....	.....	25·03	15·59	.....	.....	91·92
67-lb.	.....	0·19	.....	.....	.....	9·41	1·84	.....	251·51
67½-lb.	.....	.....	.....	.....	.....	33·89	.....	.....	101·19
70-lb.	.....	.....	.....	.....	.....	.....	.....	.....	16·21
72-lb.	.....	.....	.....	.....	5·61	.....	4·34	.....	11·95
80-lb.	1,758 42	140·42	.....	.....	.....	3·42	178·80	.....	2,690·85
85-lb.	58·58	17·50	.....	.....	.....	.....	12·90	.....	879·94
Totals	1,817 00	158·11	80·01	29·59	30·64	62·31	203·18	.....	4,550·07

RAIL AND TIE RENEWALS, BALLASTING, DITCHING, NEW SIDINGS, ETC.

	Inter-colonial Railway	Prince Edward Island Railway	New Brunswick and Prince Edward Island Railway	Inter-national Railway	Moncton and Buctouche Railway	Elgin and Havelock Railway	Hampton and St. Martins Railway	York and Carleton Railway	Salisbury and Albert Railway
New 85-lb. rails laid ... miles	141·22								
" 67½-lb. rails laid ... "		1·10							
Relay 80-lb. rails laid ... "	9·37			2·80	3·00				2·40
" 70-lb. " ... "	0·21								
" 67-lb. " ... "				0·61		1·55	0·30		0·50
" 60-lb. " ... "				0·36					
" 56-lb. " ... "									
Tie renewals—Main Line ... number	668,456	61,964	10,740	22,080	6,306	6,538	3,821	1,820	14,055
" Sidings ... "	88,976	2,743	433	300	331	340	202		725
" Switch ties ... sets	427	47		2	3	4		4	7
Tie plates placed ... number	274,967								
Rail anchors ... "	1,200								
Ballasting ... miles	151·73	9·10	0·50	12·60	6·30		2·00		6·50
Ditching ... "	110·01			12·40	4·00		4·50		3·00
Bank widening and trimming ... "	38·80			0·75			1·00		0·50
Tile underdraining ... "	0·10								
Riprap protection ... lin. ft.	3,500			200					
Cribwork ... "		500		1,350			145		
Retaining walls ... "									
Dangerous rocks removed ... cu. yds	10,500								
Wire fencing erected ... miles	109·41	7·50				0·25			
Snow " ... "	2·20	1·40			0·40	0·40	0·40		0·60
Board " ... "	0·36								
Clearing right-of-way ... acres					60·0	10·0	45·0		50·0
Highway crossings built ... number									
Farm crossings built ... "									
Roadways constructed ... "									
Sidings, additional—passing ... lin. ft.	5,524						425		961
" " business ... "	65,053	775			1,003	845	370		2,421
" " private ... "	28,302	2,061		480			240		
Sidings taken up—passing ... "	14,520								
" " business ... "	17,004				210	210			
" " private ... "	9,857								
Re-laying sidings previously removed for overseas rail ...									

RAIL AND TIE RENEWALS, BALLASTING, DITCHING, NEW SIDINGS, ETC.—*Continued.*

	National Trans-continental Railway	St. John and Quebec Railway	Caraquet and Gulf Shore Railway	Lotbiniere and Megantic Railway	Cape Breton Railway	Quebec and Saguenay Railway	Leased Lines	Totals
New 85-lb. rails laid.....miles	29·59							170·81
" 67½-lb. " ..... "						4·17		5·27
Relay 80-lb. " ..... "	130·00	0·54					2·10	21·51
" 70-lb. " ..... "								0·21
" 67-lb. " ..... "								2·96
" 60-lb. " ..... "								0·36
" 56-lb. " ..... "			3·00					3·00
Tie renewals—Main Line.....number	560,027	80,371	21,090	5,717	1,875	7,164	69,063	1,544,087
" Sidings..... "	71,740	2,220	910	377			18,768	188,065
" Swith ties..... sets	109	10					4	617
Tie plates placed.....number	133,550	3,059				38,000		449,576
Rail anchors placed..... "	8,000						20,200	29,400
Ballasting.....miles	68·16					10·94	5·00	272·83
Ditching..... "	52·55	15·00	1·00			2·67	1·70	206·83
Bank widening and trimming..... "	6·50		1·00					48·55
Tile underdraining..... "	1·86							1·96
Riprap protection.....lin. ft.		2,000				600		6,300
Cribwork protection..... "								1,995
Retaining walls..... "	40							40
Dangerous rocks removed.....cu. yd.	3,076	1,155						14,731
Wire fencing erected.....miles	71·00					8·10	2·07	198·33
Snow " " ..... "	1·00	0·20				1·39		7·99
Board " " ..... "	0·31							0·67
Clearing right-of-way.....acres			85·0					250·00
Highway crossings built.....number	6							6
Farm crossings built..... "	13							13
Roadways constructed..... "	2							2
Sidings, additional—passing.....lin. ft.	18,301		1,800				1,794	28,805
" " business..... "	18,561	725				1,550	4,410	94,713
" " private..... "	36,352	3,102	750	377			6,090	77,754
Sidings taken up—passing..... "								14,520
" " business..... "						1,975		19,399
" " private..... "	5,206							15,063
Relaying sidings previously removed for overseas rail.....	33,147							33,147

MAIN LINES UNDER CONSTRUCTION

Intercolonial Railway.—On the Fredericton Subdivision, grade and alignment revisions to reduce the excessive curvature and short steep grades, from mile 89·94 to 92·30 and from mile 95·32 to 96·51 were undertaken and, at the end of the year 55 per cent completed. This work is part of a proposed improvement of the line from McGivney Junction to Fredericton for through traffic between the West and the winter port of St. John.

Between Charny and Quebec bridge, a direct connection to facilitate the operation of the railway is under construction. This connection will reduce the distance between the above points by 1·25 miles and eliminate the grade crossing on the bridge subdivision with the Chaudière Valley Railway. The work at the end of the year was 25 per cent completed.

TERMINAL IMPROVEMENTS

Intercolonial Railway—Halifax.—At the Ocean Terminals construction of permanent train shed was completed. Sign and number boards were placed at the ends of the various tracks for information of travellers. Additional platforms and roadways were built and additional drainage, water and steam pipes installed. Roadways to the team tracks were surfaced with gravel and a new roadway constructed to serve shed No. 23, doing away with the necessity of teaming through shed No. 24. A ramped roadway was constructed to shed No. 28. In shed No. 24 a fire pump with salt water connection was installed giving increased fire protection. Additional gas tanks were provided at the car shop.

At the Deepwater Terminals, additional filling with waste rock was made for extension of team tracks. The first floor of shed on pier No. 2 was remodelled to conform with the requirements of the Immigration Department.

At Fairview, grading of site for new engine terminal, car repair shop and yard was undertaken and at the end of year was 80 per cent completed.

Dartmouth.—The rearrangement and extension of yard, giving a capacity of 220 cars, which was started during year 1918, was completed. The grade of Lyle street was lowered on account of grade revision at this point. Roadway to the freight-shed was widened and graded.

Truro.—An electrically-driven 250-ton coaling plant was erected and put in operation greatly facilitating the coaling of engines.

Sydney.—An Ord ash pit was constructed and new air line installed to sand-house.

Point Tupper.—Construction of a 100-ton mechanical coaling plant at this terminal was 90 per cent completed.

Pirate Harbour.—A 100-ton coaling plant is being constructed and at the end of the year was 70 per cent completed.

Moncton.—Grading in connection with proposed new terminal facilities has been started. New terminal facilities and increased accommodation at this point are necessary on account of the existing facilities being out of date for present types of locomotives, inefficient and inadequate and the proposed new facilities at the west end of the existing yard will, with the new connection between the St. John and Newcastle Subdivisions, which has been put into operation, greatly facilitate the handling of trains and engines and make a large reduction in the cost of conducting traffic.

At Moncton shops, additional shop area is being provided by roofing the space between the boiler and erecting shops. A 25-foot ash pit was constructed at the erecting shop and a 35-foot repair pit in the freight car repair shop. The roof of the erecting shop was insulated to prevent condensation of moisture during the winter months.

St. John.—Rearrangement and extension of Island yard, increasing the capacity of yard by 500 cars for the handling of export traffic, was carried out. This extension involved the diversion of March creek and the construction of a new double track pile bridge. Nine new tracks were completed and put into operation, the whole scheme being 65 per cent completed at the end of the year. A 100-ton mechanical coaling plant was removed from the N.T.R. yard at Moncton and erected at St. John, facilitating the coaling of engines and reducing the cost of handling which was previously done by a system of coal pockets and crane. The old train shed at Union depot was removed and replaced with umbrella roofs between tracks. At Water street, three additional tracks were laid to accommodate increased business at this point. In the grain elevator a dust collector system is being installed. A spur line to the St. John Shipbuilding and Dry Dock Company's plant at East St. John was completed and put into operation.

Newcastle.—A hundred-ton mechanical coaling plant was constructed and tracks rearranged to serve the plant.

Chaudière Junction.—Engine facilities at this terminal, which were inadequate and inefficient are being extended by construction of thirteen additional stalls and the enlargement of four existing stalls. A new machine shop is being erected and concrete ash pits constructed. The increased terminal facilities at this point will, when completed, permit of the abandonment of the G.T.R. engine facilities at Point Lévis and the N.T.R. engine facilities at bridge, the business of the three terminals being handled at Chaudière Junction.

New Brunswick and Prince Edward Island Railway.—At Cape Tormentine it was found necessary to dredge the entrance channel and turning basin to provide greater depth of water, there beiug danger of the ferry steamer *Prince Edward Island* touching bottom during low tides and gales. This work was 30 per cent completed. Spring bumper equipment was installed at the ferry landing.

Prince Edward Island Railway.—At Charlottetown, about 2,000 feet of narrow gauge track was converted to multiple track to accommodate standard guage equipment and at Royalty Junction 2,200 feet of narrow gauge track was converted to multiple track.

National Transcontinental Railway.—At Monk, alterations were made to the mechanical coaling plant, and a special loading device provided to eliminate constant trouble from flooding of pit.

St. Malo.—Additional equipment, tools and machinery were installed and additional tracks provided. A new building was erected for housing acetylene generator and sheds constructed, with shelving and racks, for castings and bar iron. At the power-house an elevator was installed for removing ashes from basement. In the locomotive erecting shop a 20-ton electric travelling crane was installed. A Fire Department was organized and 1,000-gallon fire-pump and equipment for firemen provided.

Cochrane.—An oil storage system was installed in store house and oil and waste reclaiming machine provided.

Sioux Lookout.—Alterations were made to the coaling chute to facilitate coaling of engines. A septic tank and affluent bed for disposal of the sewerage from station, round house and bunk house is being constructed.

Grand Trunk Pacific Branch.—Raith was re-established as a terminal point on September 1, 1920, the engine shed and bunk rooms being overhauled.

Quebec and Saguenay Railway.—At La Malbaie, a one-stall additional engine-house was erected and sidings constructed for storage of passenger coaches and snow plows. Steam pipe connection was made from engine house to coach storage siding for the heating of cars. A half ton coal hoist was provided for coaling engines.

WATER SERVICE AND DRAINAGE

Intercolonial Railway.—Three new pumps and two hydraulic rams were installed, one 40,000-gallon tank erected, two reservoirs constructed, six wells sunk, two new stand-pipes installed, twelve domestic water supplies provided at station and section houses, eight new supply lines installed and three other water connections made, seven catch basins constructed, three sewers extended and three new drainage systems installed.

Prince Edward Island Railway.—At Hunter River, a 50,000-gallon capacity storage reservoir was constructed to augment previous supply which failed during dry seasons.

New Brunswick and Prince Edward Island Railway.—At Baie Verte, a new reservoir was constructed, 40,000-gallon tank erected, new pump-house built, and 1,300 foot supply line installed.

International Railway.—A new dam was built at Millersville.

Moncton and Buctouche Railway.—A hydraulic ram was installed and 20,000-gallon tank erected at mile 16·6.

Salisbury and Albert Railway.—At Albert, a gravity water supply and 10,000-gallon tank is under construction, being 80 per cent completed at the end of the year.

St. Martins Railway.—At mile 10·9 a gravity water supply and 5,000-gallon tank, with supply lines, were constructed.

National Transcontinental Railway.—One 50,000-gallon tank was erected, oil vapourizers were provided at sixteen pumping stations, two domestic water supplies were installed and one drainage system constructed.

On all railways, repairs were made where necessary to keep the water service in good working order.

BUILDINGS

Intercolonial Railway.—One new combined station and freight-shed, eight stations and shelters, one freight-shed, one agent's dwelling, three toolhouses, two bunkhouses, two stock pens, one pumphouse, seven miscellaneous buildings and eight platforms were constructed; seven buildings and two platforms were extended; six buildings were moved and relocated; alterations and additions were made to five buildings; steam heating was installed in three buildings.

Prince Edward Island Railway.—One new 350-ton icehouse was constructed; one station moved and relocated; one tool house erected; two platforms constructed and 600 feet of wooden platforms replaced with cinder platform.

International Railway.—One new section dwelling, one temporary station and one coaling platform were erected.

Salisbury and Albert Railway.—One single stall engine shed and one new freight-shed were erected.

York and Carleton Railway.—One cattle chute was provided.

National Transcontinental Railway.—Three new stations and shelters were constructed; thirty-five section-houses built; one coaling plant erected; three new platforms constructed; five miscellaneous buildings erected; eight buildings and twelve platforms extended; five buildings moved and relocated; three wooden platforms replaced with cinder platforms. Steam heating was installed in three buildings.

Grand Trunk Pacific Railway.—One car repair shop and one section-house were erected and one portable station provided.

On all railways the necessary alterations, repairs and painting were made to buildings to keep them in good repair.

DAMAGE BY FLOODS AND HIGH TIDES

High tides, freshets and ice-jams caused considerable damage to roadbed and track on the Bedford, Dartmouth, Sydney, Mulgrave, Albert, St. Martins, Matapedia, Leonard, Fredericton, Centreville, Riviere du Loup, Grand Falls, Champlain Market, Fitzpatrick and Lake Superior Subdivisions. Where the damages occurred, repairs were at once made to put the the roadbed and track in good condition again.

DAMAGD BY FIRE

Intercolonial Railway.—Fire destroyed eight buildings, 1,075 lineal feet of fence, 1,200 track ties, 500 shims and damaged four buildings and one platform.

New Brunswick and Prince Edward Island Railway.—One tool-house was destroyed by fire.

National Transcontinental Railway.—Fire destroyed four buildings, eleven cars, 1,100 track ties, thirty-five telegraph poles, three miles of fencing and damaged two boarding cars and 1,750 lineal feet of track.

Grand Trunk Pacific Branch.—A pile trestle 45 feet in length was destroyed and one building damaged by fire.

BRIDGES AND CULVERTS

The following is a brief summary of the work carried out in connection with bridges and culverts during the period:—

Intercolonial Railway—	
Steel and wooden stringers replaced with concrete slabs	18
Highway overcrossing repaced	1
New bridge seats and ballast walls built on bridges	32
New concrete culverts and pipe culverts constructed	9
Culverts replaced with concrete and pipe culverts	163
Concrete and pipe culverts extended	3
Culverts renewed	17
Culverts filled in	2
Bridges repaired and strengthened	92
Sidewalks and hand rail placed on bridges	2
Farm crossing culverts replaced	69
Prince Edward Island Railway—	
Bridges strengthened	2
Bridges replaced with concrete arch culvert and fill	1
Steel stringer opening replaced with concrete culvert	1
New concrete culverts and pipe culverts constructed	2
Culverts replaced with concrete and pipe culverts	6
Culverts renewed	2
New Brunswick and Prince Edward Island Railway—	
New concrete pipe culvert constructed	1
Culverts replaced with concrete and pipe culverts	18
Culverts renewed	15
International Railway—	
Wooden culvert replaced with concrete pipe culvert	1
Vale Railway—	
New concrete pipe culverts constructed	2

Cape Breton Railway—	
Bridge strengthened by timber bents	1
York and Carleton Railway—	
Wooden culverts replaced with concrete pipe culverts	5
Moncton and Buctouche Railway—	
Wooden culverts replaced with concrete pipe culverts	3
Salisbury and Albert Railway—	
Wooden bridges and old iron girders replaced with steel spans	4
Wooden culverts replaced with concrete pipe culverts	5
Culverts strengthened	13
Elgin and Havelock Railway—	
Wooden culverts replaced with concrete pipe culverts	11
Culverts strengthened	7
St. Martin's Railway—	
Wooden bridge and trestle replaced with steel spans	2
New concrete substructures for bridges	2
Wooden culverts replaced with concrete pipe culverts	6
Culverts strengthened	28
Caraquet and Gulf Shore Railway—	
Trestles reconstructed aggregating 183 lineal feet	3
Bridges, trestles and cribwork structures strengthened	12
Wooden stringer culverts replaced with steel beams	7
Culverts strengthened	47
National Transcontinental Railway—	
New bridge erected	1
Bridges, culverts and trestles filled in	5
New culverts built	11
Culverts replaced	5
Culverts extended	3
Bridges and culverts repaired and strengthened	41
Farm crossing culverts replaced	20
Grand Trunk Pacific Branch—	
Pile bridge replaced with reinforced concrete trestle	1
Pile bridge built	1
Pile bridge replaced with concrete pipe and fill	1
Trestles filled in	2
Trestle strengthened	1
St. John and Quebec Railway—	
Pipe culvert replaced with concrete arch pipe and lowered	1

In addition to the above works, bridges and culverts on all railways were repaired, painted or partly renewed where necessary.

Concrete pipes of various sizes aggregating 11,203 lineal feet were manufactured by railway forces for use in the construction of pipe culverts on the various railway.

TURNTABLES

Turntables on the various railways were overhauled, repaired and painted where necessary.

TRACK SCALES AND FREIGHT SCALES

Intercolonial Railway.—The track scales at Deepwater, Halifax and at Riviere du loup were remodelled and replaced; new scales were installed in the freight sheds at Windsor Junction and Dartmouth.

National Transcontinental Railway.—Installation of a 150-ton track scale at Monk was completed; alterations were made to track scales at Edmundston, St. Leonards and Transcona.

STATION BEAUTIFICATION

The work of beautifying the station grounds and yards with grass plots and flower beds was continued.

SURVEYS AND TRACK CENTERING

On the Intercolonial Railway, 44.25 miles of track were recentered, and 34.05 miles on the National Transcontinental Railway.

A preliminary survey, 5.49 miles in length, was made from Little Bras D'Or to the coal deposits in vicinity of Point Aconi.

Track and right of way surveys were made of the Cape Breton and Caraquet and Gulf Shore Railways. Right of way plans and descriptions, yard plans, bridge plans and other records of branch lines acquired during the year are in course of preparation.

A large number of surveys and plans of station yards, bridges, culverts, sidings, road diversions and lands were made in connection with improvements, new sidings and tracks, leases, deeds, claims, etc.

SIGNALS AND INTERLOCKING

Intercolonial Railway.—Automatic signals were installed between Campbellton and Tide Head. Four automatic block signals were installed at Maccan.

Pneumatic crossing gates were installed at Lutz and Church streets, Moncton, Prince and Ferry streets, Sydney, and at Heriot street, Drummondville.

Electric warning bell was installed at Bridge street, Sackville.

Naional Transcontinental Railway.—An electric interlocking system with the Bangor and Aroostock Railway at St. Leonards was completed and automatic signals installed at McGivney Junction. Train order signals were installed at Authier, Moonbeam and Pagwa.

Lotbiniere and Megantic Railway.—North semaphore at Villeroy diamond crossing was relocated.

ELECTRIC POWER AND LIGHTING

Intercolonial Railway.—At Sydney, car battery charging equipment and circuits were installed.

At Truro and Stellarton, feeder circuits were installed for purchasing power and motor and power circuits installed for driving shop machinery.

At Drummondville, an automatic control circuit to centrifugal pump for water supply was installed.

Auxiliary fire alarm system was installed at car and freight sheds, Halifax Ocean Terminals, and fire alarm boxes installed in freight shed extension at Deepwater, Halifax.

Electric lighting systems were extended to twelve buildings, platforms, subway and coaling plants.

An electric search light and electric signal gongs were installed on each of the ferry steamers S.S. "Scotia I" and S.S. "Scotia II."

TELEGRAPH REPORT

STATEMENT showing miles of railway, Quebec and Maritime Districts, operated by the Canadian Government Railways, by Telegraph, by Telephone, and by both, during the nine months ending December 31, 1920.

Railways	Miles of Railway operated by—				
	Telegraph	Telephone	Telegraph and Telephone	Pole Mileage	Wire Mileage
Intercolonial	877·63	625·64	nil	212·35	5,744·02
P.E.I. Railway	229·07	47·70	nil	57·55	103·96
I. N. R.	.....	.....	105·73	105·73	211·46
S. & A. Railway	44·77	.....	.....	44·77	44·77
Hampton & St. Martins	.....	28·73	.....	28·73	28·73
Transcontinental	1,568·78	419·93	6·40	1,988·84	6,487·73
St. John & Quebec	.....	157·86	.....	157·86	315·72
Moncton & Buctouche	nil	nil	nil	nil	nil
Elgin & Havelock	nil	nil	nil	nil	nil
York & Carleton	nil	nil	nil	nil	nil
Cape Breton Railway	nil	31·0	nil	31·0	31·0
Lotbiniere & Megantic	nil	30·0	.....	30·0	30·0
Quebec & Saguenay	.....	62·8	.....	.....	.....

W. A. KINGSLAND,
General Manager.

INTERCOLONIAL AND PRINCE EDWARD ISLAND RAILWAY EMPLOYEES' PROVIDENT FUND

Statement of Receipts and Expenditures During the Nine Months Ended December 31, 1920

Balance at the credit of the funds on March 31, 1920		$465,740 31
The contributions made by employees during the nine months, being one and one-half per cent of their monthly salary and wages were	$281,580 78	
The contributions made by the railways were	100,000 00	
		381,580 78
Amounts received for refunds, etc.		398 48
Interest accrued (at three per cent)		10,440 70
		$858,160 27

The amount contributed by the employees is shown to exceed by $181,580.78 the amount contributed by the Railways. By reference to Section No. 4 of the Provident Fund Act, it will be noted that the maximum sum the Railways are authorized to contribute to the Fund in any one year must not exceed $100,000.

The expenditures were—

For retiring allowances	$251,600 69	
For contributions refunded in cases of deceased employees	8,690 02	
For contributions refunded, which were deducted in error	3,245 47	
For contributions refunded to discharged employees, etc.	419 45	
Medical examination for probationers entering the service, etc.	2,350 00	
Medical examinations for employees retiring from the service	22 00	
For election expenses	306 56	
For salaries and travelling expenses, secretary's office, and proportion of salary chief medical officer.	10,622 25	
For stationery, printing, postage, etc.	484 40	
		277,740 84
Balance to the credit of the Fund on December 31, 1920		$580,419 43
It will be noted by the above statement of receipts and expenditures that the amount of contributions received from the Railways and from the employees during the nine months were		381,580 78
And the expenditures were		277,740 84
Showing that during the nine months the receipts exceeded the expenditures by		$103,839 94
The gross surplus, including interest, to the credit of the Fund on December 31, 1920, was		580,419 43

W. A. Kingsland,
Chairman.

C. B. Trites,
Secretary.

GRAND TRUNK PACIFIC

ANNUAL REPORT OF CANADIAN NATIONAL MANAGEMENT FOR THE YEAR ENDING DECEMBER 31, 1920

The Grand Trunk Pacific Railway has been operated under the receivership of the Minister of Railways and Canals since March 9, 1919. For some time the road was operated apart from Canadian National Railways, but in October, 1920, the management was transferred to the Canadian National Railways, and the general manager, under the receiver, is now the general manager for Canadian National Railways, Western Lines.

The following statements show in detail the result of the operation of the road for the year ending December 31, 1920, and supply as well as consolidated balance sheet, information as to capital stock, funded debt, and other statistical detail usually accompanying the annual reports of railway companies:—

GRAND TRUNK PACIFIC RAILWAY COMPANY

(IN RECEIVERSHIP)

CONSOLIDATED BALANCE SHEET

(Incorporating Accounts of Grand Trunk Pacific Branch Lines Co. and Grand Trunk Pacific Saskatchewan Railway Co.)

As at December 31, 1920

Fixed Assets—		
ASSETS		
Investment in road and equipment, including preliminary and unallocated expenses and cost of guarantee of bonds	$239,070,275 80	
Other properties	31,099 14	
Other investments	383,300 00	
Capital stock of subsidiary companies (other than railway companies)—Carried at	1 00	
		$239,484,675 94
Current and Working Assets—		
Cash in bank and on hand	$ 653,940 53	
Balance due from agents' station balances, etc. (net)	633,113 58	
Miscellaneous accounts receivable (net)	3,843,805 34	
Working funds and unvouchered expenditure	105,000 00	
Material and supplies on hand (as per the books)	1,926,981 36	
		7,162,840 81
Deferred Charges—		
Insurance premiums unexpired	$ 11,798 51	
Unadjusted debits (net balance)	193,862 92	
		205,661 43
Advances to subsidiary companies other than railway companies (net)		2,638,879 93
Profit and loss account		48,171,882 18
		$297,663,940 29

LIABILITIES

Capital Stock—		
Authorized—450,000 shares of $100 each..		$ 45,000,000 00
Issued—249,420 shares on which there has been paid..		$ 24,905,400 00
Long Term Funded Debt—		
Grand Trunk Pacific Railway Company..	$148,782,100 86	
Grand Trunk Pacific Branch Lines Company.. ..	16,775,932 68	
		165,558,033 54
Receivers' Certificates..	.....	23,097,436 96
Dominion of Canada..	.....	59,612,232 23
Notes and account payable to Grand Trunk Railway Company..	.....	13,933,288 53
Current Liabilities—		
Audited vouchers and other floating liabilities..	$ 3,555,447 29	
Pay-rolls..	757,223 14	
Interest on funded debt and loans past due and accrued..	6,244,878 60	
		10,557,549 03
		$297,663,940 29

C. E. FRIEND,
Comptroller.

We have examined the books and accounts of the Grand Trunk Pacific Railway Company, the Grand Trunk Pacific Branch Lines Company and the Grand Trunk Pacific Saskatchewan Railway Company for the year ended December 31, 1920, and have compared them with the above Consolidated Balance Sheet, and we certify that in our opinion, the foregoing Balance Sheet is properly drawn up so as to exhibit a true and correct view of the affairs of the company as at December 31, 1920, according to the best of our information and the explanations given us.

MARWICK, MITCHELL AND COMPANY,
Chartered Accountants.

TORONTO,

CAPITAL STOCK OF SUBSIDIARY COMPANIES

As at December 31, 1920

	No. of Shares Held	Per cent Paid-up per Share	Amount
Grand Trunk Pacific Telegraph Company..	988	25	$ 24,700 00
Grand Trunk Pacific Terminal Elevator..	5,000	100	500,000 00
	3	nil	.....
Grand Trunk Pacific Coast Steamship Company.	138	100	13,800 00
Grand Trunk Pacific Development Company.. ..	29,990	100	2,999,000 00
	36,119		$3,537,500 00

FUNDED DEBT AT DECEMBER 31, 1920

GRAND TRUNK PACIFIC RAILWAY

	Principal	Interest Charged for year 1920
Guaranteed as to principal and interest by the Dominion of Canada		
3 per cent 1st mortgage bonds (Prairie)..	$ 11,908,000 00	$ 357,240 00
3 per cent 1st mortgage bonds (Mountain).. ..	56,132,000 00	1,683,960 00
4 per cent Sterling bonds..	8,440,848 00	337,633 92
Guaranteed by Grand Trunk Railway Company of Canada		
4 per cent mortgage Prairie Section "A" bonds..	10,206,000 00	408,240 00
4 per cent mortgage Moutnain Section "A" bonds.	9,963,000 00	398,520 00
4 per cent 1st mortgage Lake Superior Branch bonds..	7,533,000 00	301,320 00
5 per cent secured Sterling notes..	9,720,000 00	486,000 00
4 per cent perpetual debenture stock (conditionally guaranted)..	34,879,252 86	1,395,170 12
	$148,782,100 86	$5,368,084 04

GRAND TRUNK PACIFIC BRANCH LINES

Guaranteed by Government of Saskatchewan 4 per cent 1st mortgage Saskatchewan Lines Sterling bonds..	$11,315,052 00		
Less in Treasury £1,100.. ..	5,025 24		
		11,310,026 76	452,387 95
4½ Terminal Sterling bonds..		1,881,792 00	84,680 64
Guaranteed by Government of Alberta 4 per cent 1st mortgage Alberta Lines Sterling bonds..	$1,159,596 00		
Less in Treasury £1,200.. ..	5,482 08		
		1,154,113 92	46,150 24
4 per cent 1st mortgage Alberta Lines Sterling bonds..		2,430,000 00	97,200 00
		$ 16,775,932 68	$ 680,418 83
		$165,558,033 54	$6,048,502 87

OPERATING REVENUE, OPERATING EXPENSES AND NET EARNINGS.

Year ended December 31, 1920, compared with Previous Fiscal Year

OPERATING REVENUES.

Per cent.	1920.	Class.	1919.	Per cent.
	$ cts.		$ cts.	
17·45	2,514,630 31	Passenger	2,181,805 21	19·31
75·10	10,820,994 16	Freight	8,116,364 95	71·86
1·04	150,114 61	Mails	144,034 01	1 27
2·54	365,385 77	Express	277,394 19	2·45
3·87	557,425 41	Miscellaneous	575,019 51	5·11
100·00	14,408,549 66		11,294,617 87	100·00

OPERATING EXPENSES.

Per cent.	1920.	Class.	1919.	Per cent.
	$ cts.		$ cts.	
33·20	8,147,888 61	Maintenance of way and structures	5,057,098 29	28·76
28·00	6,871,192 13	Maintenance of equipment	5,251,895 16	29·86
1·29	316,139 00	Traffic expenses	293,904 11	1·67
34·84	8,550,460 86	Transportation expenses	6,265,460 07	35·62
1·00	244,428 53	Miscellaneous	218,048 34	1·24
1·67	412,954 47	General expenses	501,161 40	2·85
100·00	24,543,063 60		17,587,567 37	100·00

SUMMARY OF REVENUES AND EXPENSES.

Per cent.	1920	Class	1919	Per cent.
	$ cts.		$ ct.	
	14,408,549 66	Operating revenues	11,294,617 87	
170·34	24,543,063 60	Operating expenses	17,587,567 37	155·71
—70·34	— 10,134,513 94	Net earnings	6,292,949 50	55·71
100·00	.....	.....	.....	100·00

INCOME STATEMENT FOR TWELVE MONTHS ENDING DECEMBER 31, 1920

Revenue	$14,408,549 66	
Subsidiary miscellaneous earnings	1,678,282 77	
		$16,086,832 43
Working expenses	$24,543,063 60	
Taxes, rentals, joint facilities, etc	760,900 24	
		25,303,963 84
Loss on operation		$ 9,217,131 41
Fixed Charges—		
Grand Trunk Pacific	$ 5,368,084 04	
Affiliated companies	680,418 83	
		6,048,502 87
Interest on demand and short term notes and loans—		
Government	$ 1,661,468 33	
Others	586,506 33	
	$ 2,247,974 66	
Less: Profit on exchange	57,250 00	
		2,190,724 66
Deficit carried to Profit and Loss statement		$17,456,358 94

PROFIT AND LOSS STATEMENT AS AT DECEMBER 31, 1920

Deficit on income account for the year	$17,456,358 94	
Delayed income Drs. and Crs. debit balance	100,568 20	
		$17,556,927 14
Deficit brought forward at December 31, 1919		30,614,955 04
Total deficit at December 31, 1920, carried to balance sheet		$48,171,882 18

EARNINGS, EXPENSES AND NET EARNINGS PER MILE FOR YEAR ENDING DECEMBER 31.

Year.	Average Miles Operated.	Earnings.	Expenses.	Net Deficit.
		$ cts.	$ cts.	$ cts.
1919	2,807·3	4,023 30	6,264 94	2,241 64
1920	2,807·3	5,132 53	8,742 58	3,610 05

FIXED CHARGES PER MILE OF ROAD.

	1920.	1919.
	$ cts.	$ cts.
Amount required per mile of Road to pay Fixed Charges	2,934 93	3,309 47

PASSENGER, FREIGHT AND MISCELLANEOUS STATISTICS.

Compared with Previous Fiscal Year.

—	1920.	1919.	xIncrease or — Decrease.
Passenger Traffic:—			
Passenger carried (earnings Revenue)	824,732	716,238	x 108,494
Passengers carried one mile	92,262,859	96,564,164	x 15,698,695
Passengers carried one mile per mile of road	32,865	27,273	x 5,592
Average distance carried	111·87	106·89	x 4·98
Total passenger revenue	$ 2,491,318 48	$ 2,161,565 20	x $ 329,753 28
Average amount received per passenger	$ 3,020 07	$ 3 01·79	x $ 00·28
Average amount received per passenger per mile	c. 02·700	c. 02·823	— c. ·123
Total passenger train earnings	$ 3,201,078·32	$ 2,772,264·06	x $ 429,814·26
Passenger train earnings per train mile	$ 1 62·63	$ 1 61·53	x $ 01·10
Freight Traffic:—			
Revenue tons carried	2,853,116	2,274,752	x 578,364
Revenue tons carried one mile	1,111,628,503	746,631,127	x 364,997,376
Revenue tons carried one mile per mile of road	395,978	265,961	x 130,017
Average distance haul of one ton	389·62	328·22	x 61·40
Total freight revenue	$ 10,757,773 29	$ 8,073,267 64	x $ 2,684,505 65
Average amount received for each ton of freight	$ 3 77·05	$ 3 54·91	x $ 22·14
Average revenue per ton per mile	c. 0·968	c. 1·081	— c. ·113
Total freight train earnings	$ 10,875,232 47	$ 8,175,158 74	x $ 2,700,073 73
Freight train earniags per train mile	$ 3 34·042	$ 3 02·702	x $ 0 31·340
Train Mileage:—			
Mileage of passenger trains	1,539,184	1,284,628	x 254,556
Mileage of freight trains	2,819,620	2,269,104	x 550,516
Mileage of Mixed trains	435,975	427,546	x 8,429
Mileage of special service trains	53	4,081	— 4,028
Expenses per traffic train mile:—			
Maintenance of way and structures	$ 1 69·93	$ 1 26·89	x $ 0 43·04
Maintenance of equipment	$ 1 43·30	$ 1 31·78	x $ 0 11·52
Traffic expenses	c. 06·59	c. 07·37	— c. 00·78
Transportation expenses—rail	$ 1 78·30	$ 1 57·22	x $ 0 21·08
Transportation expenses—water	c. 00·03	.....	x c. 00·03
Miscellaneous operations	c. 05·10	c. 05·47	— c. 00·37
General expenses	c. 08·61	c. 12·57	— c. 03·96
	$ 5 11·86	$ 4 41·30	x $ 0 70·56

SUMMARY OF EQUIPMENT.

—	At December 31. 1920.	1919.
Locomotives	281	259
Sleeping and dining cars	52	52
Passenger coaches	181	182
Baggage, mail and express cars	121	121
Business cars	.....	.....
Freight, refrigerator and stock cars	15,445	15,098
Conductors vans	135	136
Boarding, tool, auxiliary cars	.....	.....
Steam shovels and snow equipment	519	492

DESCRIPTION OF FREIGHT CARRIED YEARS ENDED DECEMBER 31.

—	1920.			1919.		
	Quantity.	Tons.	%	Quantity.	Tons.	%
Flour and other mill products	587,640 Sax.	29,382	1·03	901,120 Sax.	45,056	1·98
Wheat	27,901,666 Bus.	837,050	29·34	24,445,733 Bus.	733,372	32·24
Oats	12,197,647 "	207,360	7·27	8,720,118 "	148,242	6·52
Barley and other grains	5,881,153 "	171,792	6·02	1,950,386 "	43,250	1·90
Hay and straw	.....	32,561	1·14	.....	31,328	1·38
Fruit (fresh)	.....	2,535	0·09	.....	3,182	0·14
Vegetables and other agricultural products	.....	9,457	0·33	.....	5,401	0·24
Horses	9,741 Hd.	8,280	0·29	.....	.....	.....
Cattle	68,646 "	41,188	1·44	.....	48,236	2·12
Sheep and hogs	57,555 "	5,755	0·20			
Orher animal products	.....	16,881	0·59	.....	14,228	0·62
Coal and coke	.....	848,721	29·76	.....	730,824	32·13
Bldg. material, stone, etc.	.....	50,141	1·76	.....	35,902	1·58
Ores	.....	744	0·03	.....	647	0·03
Other mine products	.....	4,718	0·16	.....	2,960	0·13
Logs, lumber, etc.	112,729 M.F.	169,094	5·94	102,931 M.F.	154,397	6·79
Cordwood	21,107cds.	29,550	1·03	.....	(Inc. with	logs, etc.)
Pulpwood	.....	.....	.....	.....	"	"
Other forest products	.....	9,253	0·32	.....	8,808	0·39
Immigrants' effects and household goods	.....	7,755	0·27	.....	5,386	0·24
Petroleum products	.....	171,849	6·02	.....	118,591	5·21
Paper, wood-pulp, etc.	.....	1,570	0·05	.....	.....	.....
Other manufactures	.....	119,562	4·19	.....	79,607	3·49
Merchandise and miscellaneous	.....	77,918	2·73	.....	65,335	2·87
Total tons	.....	2,853,116	100·00	.....	2,274,752	100·00

MILES OF RAILWAY AT DECEMBER 31, 1920

GRAND TRUNK PACIFIC RAILWAY

Owned—			
Prairie Division—			
Winnipeg to Wolf Creek		891.03	
Branches		17.15	
Mountain Division—			
Wolf Creek to Prince Rupert		744.22	
Snaring Junction to Pocahontas		15.58	
Branches		19.11	
Lake Superior Division—			
Superior Junction to Port Arthur		188.80	
Branches		5.64	
Agreements—			
Winnipeg to G.T.P. Junction		1.70	
Transfers and connections		2.88	
Trackage Rights—			
Transfers and connections—			
Manitoba	0.81		
Saskatchewan	1.13	2.51	
Alberta	0.57		
Main line joint with G.N.R.—Portage la Prairie		1.00	
Main lines joint with C.P.R.—Saskatoon		11.95	
Main line joint C.N.R.—Edmonton		1.50	
Main line joint with C.N.R.—Imrie to Chip Lake		13.76	
Main line joint with C.N.R.—Obed to Snaring		59.81	
Main line joint with C.N.R.—Geikie to Redpass Junction		35.27	
			2,011 91

GRAND TRUNK PACIFIC BRANCH LINES CO.

Owned—		
Yorkton Branch—Melville to Yorkton	25 75	
Yorkton Extension—Yorkton to Canora	28.88	
Melville, Regina—Melville-Regina	97.50	
Regina Boundary—Regina-Northgate	154.21	
Regina, Moosejaw—Regina to Moosejaw	43.46	
Moosejaw N.W. Branch—Moosejaw to Riverhurst	69.12	
Prince Albert Branch—Young to Prince Albert	111.50	
Biggar, Calgary Branch—Biggar to 4th Meridian	104.08	
Battleford Branch—Oban-Battleford	48 57	
Cutknife Branch—Battleford End of Steel	49.86	
Calgary Branch—Tofield-Calgary	202.41	
Alberta Coal Branch—Beckerdike-Lovett	56.33	
Yorkton Branch	0.49	
Regina Branch	0.74	
Prince Albert Branch	0.79	
Calgary Branch	3.71	
Alberta Coal and Mountain Parts	7.78	
Agreements—		
Mountain Park Coal Spur	30.57	
Yorkton Branch	0.14	
Melville-Regina Branch	0.39	
Regina-Boundary Branch	0.11	
Prince Albert Branch	0.11	
Cutknife Branch	0.31	
Calgary Branch	0.51	
Trackage Rights—		
Yorkton Branch	0.24	
Yorkton Extension	0.08	
Melville-Regina Branch	1.07	
Regina-Boundary Branch	0.08	
Prince Albert Branch	0.11	
Cutknife Branch	0.02	
Calgary Branch	0.02	
Alberta Coal and Pacific Pass Yards	2.54	
		1,041.48

GRAND TRUNK PACIFIC SASKATCHEWAN RAILWAY

Owned—		
Weyburn Branch—Talmage to Weyburn	15.21	
		15.21
		3,068.60

LOCATED AS FOLLOWS:

Ontario	194.44
Manitoba	215.25
Saskatchewan	1,175.56
Alberta	770.56
British Columbia	712.79
	3,068.60

SUMMARY OF MILEAGE

MILEAGE OWNED BY GRAND TRUNK PACIFIC RAILWAY SYSTEM

Owned mileage operated	2,707.48
Lake Superior Division leased to Canadian Government Railways	194.44
	2,901.92
Lines operated under Agreement	36.72
Lines operated under Trackage Rights	129.96
	3,068.60
Average miles operated for fiscal year	2,807.3

Committee of Management

The Grand Trunk Railway Acquisition Act, 1919, and the agreement of March 8, 1920, between the Canadian Government and the Grand Trunk Railway Company, provided for the creation of a Committee of Management consisting of five persons, two to be appointed by the Grand Trunk, two by the Government and the fifth by the four so appointed. The functions of this committee were to insure the operation of the Grand Trunk System (in so far as possible to do so) in harmony with the Canadian National Railways, the two systems to be treated, in the public interest, as nearly as possible as one system. The committee were also empowered (subject to the consent of the Governor in Council) to borrow from the Government on Grand Trunk notes, or other obligations or securities approved of by the Governor in Council, for the carrying on of the operation or improvement of the Grand Trunk System.

This Committee of Management was duly formed and comprised the following personnel:—

Mr. Howard G. Kelley, President, Grand Trunk Railway, (Chairman).

Mr. C. A. Hayes, Vice-President, C. N. Rys. (Government Representative).

Mr. S. J. Hungerford, Vice-President, C. N. Rys. (Government Representative).

Mr. W. D. Robb, Vice-President, G. T. Ry. (Grand Trunk Representative).

Mr. Frank Scott, Vice-President and Treasurer, G. T. Ry. (Grand Trunk Representative).

The first meeting took place May 21, 1920, and meetings were held periodically thereafter as found necessary.

Upon assuming office the Committee of Management arranged for the appointment of sub-committees composed of the local officers of both railways in different districts, which sub-committees duly considered and reported upon various items of consolidation or improvement. These matters were then submitted to the Committee of Management for deliberation, and the rulings given were transmitted through proper channels to the local officers concerned.

The Committee of Management ceased to function on May 12, 1921, the date upon which the Grand Trunk shareholders agreed to turn over the Grand Trunk to the Government.

The Committee of Management was able to do much useful work in the unification and consolidation of facilities with material saving in cost of operation and maintenance. Duplicate stations were eliminated at points where both lines touched; physical connection was made at certain points and joint trackage arranged for where formerly parallel trackage had been maintained by each company; economies were effected in the handling and routing of joint freight and passenger business and an interchange of traffic arranged which involved a considerable saving in train miles. Express services were also consolidated and joint representation of freight and passenger agencies provided at prominent American points. These activities are estimated by the Committee of Management to have involved a saving of $1,778 826 per annum, distributed as follows:—

	Capital Expenditure.	Expense per annum.	Saving per annum.	C.N. Rys. credit to capital from salvage.
	$	$	$	$
Quebec District	77,730	4,664	422,843	.....
Eastern Ontario District	313,671	67,865	850,533	338,091
Western Ontario District	199,776	12,191	318,955	36,986
Traffic departments	.....	76,204	164,582	.....
Express companies	26,600	1,596	.....	.....
General subjects	.....	.....	2,913	.....
Total	617,777	162,520	1,778,826	375,077

REPORT OF W. A. BOWDEN, CHIEF ENGINEER OF THE DEPARTMENT OF RAILWAYS AND CANALS

The through water route between Montreal, at the head of ocean navigation, and Fort William and Port Arthur, on the west shore of lake Superior, comprises 74 miles of canal, with forty-eight locks and 1,155 miles of river and lake waters, or a total of 1,229 miles. The minimum depth of water on this route is 14 feet. From Montreal to Duluth, on the southwest end of lake Superior, the total distance is 1,354 miles, and to Chicago 1,286 miles. Connection is made with the Canadian Pacific Railway from points west and south at Fort William and Port Arthur (6 miles apart). From Fort William connection with the main transcontinental line of the Canadian National Railways is made by the branch line originally constructed by the Grand Trunk Pacific Railway, but now operated by the Canadian National Railways.

On this through route the approaches to the canals and the channels of the intermediate river reaches are well defined, and are lighted with gas buoys under the control of the Department of Marine and Fisheries, admitting of safe navigation in the hands of competent pilots, both by day and night. The Lachine, Soulanges, Cornwall, Welland and Sault Ste. Marie canals are lighted throughout by electricity, and electrically operated. The Farran's Point canal is lighted by acetylene gas.

Of the minor systems, the Murray, Trent, Rideau, and Ottawa River canals may be considered geographically as branches of the through east-and-west route. In operation, however, these canals serve a distinct traffic of more local nature. Isolated from the systems just mentioned, the navigation of the Richelieu river, from its junction with the St. Lawrence at Sorel to lake Champlain, is effected by means of the St. Ours lock and the Chambly canal; while in the extreme east the St. Peter's canal provides communication between the Bras d'Or lakes of Cape Breton island and the Atlantic ocean.

A full statement of the various canals and canalized waters now in operation, with their mileage, limiting dimensions, etc., is the subject of a separate departmental publication, and a summary of this data is appended to this report.

Lachine Canal

Navigation on this canal suffered no serious interruption during the last navigation season. The most extensive work carried on consisted in the construction of a permanent cut-off between the St. Pierre river, at its crossing under the canal at Cote St. Paul, and the canal. Racks were placed at the entrances to both the St. Henry and Atwater Avenue syphons. Among smaller improvements made may be mentioned the sand blasting and painting of four canal bridges, the reconstruction of regulating weir No. 3, the placing of a number of cast-iron mooring posts and the construction of a concrete wall on the centre pier of Wellington Street bridge.

Soulanges Canal

At lock No. 4 in the carrying out of repairs to the apron at the foot of the lock, it was found necessary to install a 42-inch drain pipe through the apron and breast wall of lock No. 3, and a double 42-inch pipe through the breast wall of lock No. 2. This allows of the complete drainage of reaches between locks 2, 3 and 4. Upwards of twenty-six farmers' bridges were rebuilt in concrete, the embankment at the eastern end of lock No. 3 was reinforced with steel piling, and the work of constructing the interlocking steel cut-off and concrete apron above lock No. 4 was carried to completion.

Cornwall Canal

This canal was operated continuously through the season of navigation with but two exceptions. On October 31 the steamer *Compton*, of the Geo. Hall Coal Company, carried away the two upper gates of lock No. 17, causing also considerable damage to the earth slopes at the lower lock from the rush of water, and to several light poles. Repairs which permitted of the resumption of navigation were completed within eighteen hours of the accident. At lock No. 18, on June 8, the steamer *Nicaragua*, of the Canada SS. Lines, collided with and damaged the upper gates. The damage had been repaired and navigation proceeded again within a few hours.

Among the more important repairs and construction works carried out during the year may be mentioned the removal and rebuilding in concrete of the top of the Pitt Street wharf at Cornwall, the construction of fifty-five keel blocks in the repairing basin, and the rebuilding of one of the floating booms above lock No. 21.

The work of constructing a head-race from a point on the south side of the canal about half a mile west of the Cornwall swing-bridge to the St. Lawrence river for the supply of power to the Canadian Cottons Company, and the erection of a power-house, which had been commenced by that company in February, 1920, was proceeded with during the past year. Excavation for the head-race has been completed and work on the power-house is now well under way.

Farran's Point Canal

An accident occurred on September 2, when a barge of the Geo. Hall Coal Company collided with and caused considerable damage to a portion of the north entrance wall of the canal. Repairs were promptly made at the expense of the owners of the vessel.

The usual maintenance repairs were attended to, but no extensive construction work carried out.

Rapide Plat Canal

Owing to the low water in the river during the past season of navigation, this canal was used quite extensively by downbound vessels.

The usual repairs such as the renewal of gates and the maintaining in good order of slopes and protection walls were attended to.

Galops Canal

Minor repairs only and small renewals were found necessary during the year. The canal was operated without interruption to traffic.

Murray Canal

This canal, which is an open waterway 80 feet in width, with 12 feet depth at low water, across the isthmus of the Prince Edward County peninsula, connecting the bay of Quinte with lake Ontario, is without locks. No special work was required in the maintenance of this canal during the past season.

Welland Canal

This canal was in operation during a period of eight months. The through traffic of the canal was slightly less than that of the year before.

Several accidents occurred during the year. The steamer *Stormont* on April 29 carried away two gates at lock No. 3. Traffic was delayed about nineteen hours

before all the necessary repairs had been attended to. On July 11 the steamer *Maplegrove* carried away the lower gates of lock No. 2, the vessel itself being severely damaged. A delay to traffic was occasioned for a period of thirty-three hours. At lock No. 4 the two upper gates were struck and carried out on July 27 by the steamer *Oatland* and navigation delayed for about thirteen hours. The last accident of the season occurred on August 3, when the steamer *Robert H. Rhodes* was being raised in lock No. 9. Due probably to the lower gates not being properly mitred when valves in the upper gates were opened, the two lower gates were broken over. The vessel was undamaged and navigation proceeded within fourteen hours.

New Canal.—The roadway along the easterly bank of the canal, mentioned in last year's report as under construction, was completed with the exception of about a mile at Welland Junction. At the head of old lock No. 1, Port Dalhousie, a fixed concrete highway bridge was built, replacing the old wooden bridge. A large number of minor repairs were attended to, such as the rebuilding of a portion of the westerly wall at lock No. 3, the construction of a concrete toe wall below lock No. 6, and the rebuilding of the transmission line from Feeder Junction to Raney's Bend.

Old Canal.—At lock No. 21 a concrete bridge was constructed giving access to the gate yard. The old wooden swing-bridge at lock No. 7 was replaced by a concrete bridge of fixed span. Various minor repairs also received attention.

Canal Feeder.—The old wooden swing-bridges at Marshville and Pettit Road were replaced by fixed span concrete bridges. Work on the concreting of the apron at Dunnville dam was completed and the easterly retaining walls at the dam and bridge were built in concrete. A large amount of rubble stone was placed below the apron of the dam to protect the piles from scour. At the entrance to the Charles Ross mill-pond an old wooden bridge was replaced by an earth fill.

Port Colborne Elevator.—Following the explosion of August, 1919, the elevator did not resume operations until September, 1920. As a consequence comparatively little business was done last season. A total of 4,488,826 bushels was handled before the close of navigation.

Welland Ship Canal

For a detailed description of the various works which it is proposed to undertake in the carrying out of this work, it will be necessary to refer back to the report of the engineer in charge contained in the annual report of this department for the fiscal year 1913-14, page 359. In the present report, therefore, a brief resumé of the general scheme involved may not be out of place.

The proposed ship canal leaves lake Ontario at the mouth of Ten-mile creek, about three miles east of Port Dalhousie, follows an entirely different route from the present canal as far west as Allansburg, about half-way across the peninsula, and from here proceeds along the course of the present canal to Port Colborne on lake Erie. The total distance traversed from lake to lake will be 25 miles. The difference of level between the two lakes, 325½ feet, will be overcome by seven lift locks, each having a lift of 46½ feet. The locks are to be 800 feet long and 80 feet wide in the clear and will provide a depth of 30 feet of water over the mitre sills. The width of the canal prism is to be 200 feet. A new breakwater, now under construction, will be built at Port Colborne, extending 2,000 feet farther into the lake than the present breakwater. Extensive harbour works are contemplated for the lake Ontario entrance at Port Weller. For purposes of construction, the canal is divided into nine sections or contracts numbered from the lake Ontario end. During the past fiscal year, work has been carried on on sections 1, 2, 3, and 5.

Following is a brief summary of the work which has been in progress on the various sections during the past fiscal year:—

Section No. 1.—Dredging work in the harbour at Port Weller was commenced about the middle of July, about 130,000 cubic yards of material being excavated during the past season. The coping wall on cribs 8W to 16W was completed. No new concrete cribs were constructed, but those stored at Port Dalhousie were removed to Port Weller, and preparations have been made for the construction of the remaining cribs. Considerable progress was made on the embankments of the harbour. Concrete work has proceeded at lock No. 1 and the supply culvert in the west wall has been completed. The piers and abutments for bridge No. 1 have been completed and work on two floor spans will be commenced immediately.

Section No. 2.—Work on this section was not started till July and operations were considerably retarded by the difficulty experienced in securing an adequate supply of cement. At lock No. 2 considerable excavation has been done and a start made on the concrete work. At lock No. 3 work of a preliminary nature only has been under way. The fixed portion of bridge No. 3, consisting of six spans, has been completed. The pier of bridge No. 4, which had been pushed out of position by the landslide of four years ago, was removed, the requisite new piles driven and the new pier constructed up to the grade of bottom of canal.

Section No. 3.—Operations on this section also were retarded through the difficulty of obtaining cement. Good progress was made, however, on the excavation work and concreting was begun at the upper west entrance wall of lock No. 7 and carried nearly to completion.

Section No. 5.—Dredging on this section was carried on throughout the entire season, upwards of 506,000 cubic yards of earth and rock being taken out.

Construction Railway.—Considerable repair work was found necessary, such as tie removals, etc. The track scales were overhauled and put into serviceable condition. After work had commenced on section No. 3, traffic conditions became fairly heavy, and as many as seventy-one trains have been handled over the line in a single day.

Sault Ste. Marie Canal

In the past fiscal year this canal was in operation during the entire season of navigation, or for a period of eight months. No accidents of a serious nature occurred. There was a slight increase in passenger traffic through the Canadian canal over that of the year before, amounting to 5 per cent. The increase, however, over the season of 1918 showed an advance of 58 per cent. Freight tonnage through the Canadian canal showed a falling-off of 40 per cent from the previous year, but the freight tonnage of Canadian vessels passing through both canals increased by 6 per cent. This condition may be accounted for by the fact that many Canadian vessels find it necessary to make use of the deeper draught locks of the American canals.

Repairs and improvements of a minor nature only were undertaken during the year, such as the painting of the movable dam, cleaning out of lock culverts and repairing of lock floor and valve shafts.

St. Annes Lock

Apart from the usual maintenance, the only construction work carried out at this lock during the past year was the rebuilding for a length of 318 feet of the concrete ice-breaker and the river face of the upper wing dam.

Carillon and Grenville Canals

Portions of the apron of the Carillon dam, which had been carried away by the ice shove, were repaired. Two of the smaller breaks will be attended to during the next fiscal year. Two small bridges from the main road to the locks at Carillon were rebuilt with concrete piers and abutments and a steel superstructure.

Rideau Canal

Water conditions were favourable during the entire navigation season and no serious interruptions to traffic from this or any other cause occurred. During the winter also, the supply of water for power purposes was at all times adequate. The lockages of the past season showed a slight decrease compared with those of the preceding year.

Among the more important repairs and works of construction carried out, the following may be noted: At the Ottawa lock station, the old mitre sills in locks Nos. 7 and 8 were renewed in concrete. Considerable repairs and improvements were made to the lock-house. At Hartwell's lock, the gates were renewed, and the concrete wall, begun last year, was completed. The portion of this wall running north to the Canadian Pacific Railway crossing is now under construction. At Black rapids, the shoal below the retaining dam was dredged out. The piers of the dam at the White Horse, Long Island lock station, were repaired, and the gravel shoal below the lock was dredged. New swing-bridges were built at Beckett's landing and at Nicholson's dock. At Merrickville, the three bridges were refloored. A new pivot pier was constructed under the swing-bridge at Old Slys lock station, and the floor of the bridge renewed. The old timber retaining dam at Smith's Falls was rebuilt in concrete and the regulation of the water at this point has been greatly facilitated thereby. The timber rest piers of the swing-bridge were also renewed in concrete. The filling behind the retaining wall, which lies between the lock and the swing-bridge on the north side of the canal, was completed. On the Perth branch, the tow-path between Craig and Beckwith streets was graded and macadamized. At Chaffey's lock station, the old timber waste weir was rebuilt in concrete. At Jones's lock station, the timber rest pier on the west side of the swing-bridge was taken down and rebuilt in concrete, and various minor repairs were made to the house. The clay shoal below the lower lock at Kingston Mills was dredged to provide a suitable depth of water.

St. Ours Lock

This lock was in continuous operation. Small repairs were made to the foundations of the entrance mooring piers, and to the eastern end of the dam.

Chambly Canal

The old swing-bridge at crossing No. 6, near Chambly, was taken out and replaced by a heavier structure suitable to modern road traffic. At locks Nos. 1, 2 and 3, twelve old balance beams were replaced with new machinery.

Trent Canal

The route of the Trent canal, as now in operation or under construction, lies between Trenton, on the bay of Quinté, where direct connection is made with lake Ontario, and Honey harbour, on Georgian bay, from which the waters of the Great Lakes are at once accessible. The canal is made up of a series of lakes and rivers con-

nected by relatively short lengths of artificial cuttings. Connection between the water levels of the various reaches is effected by locks. The route may be briefly described as follows: Between Trenton and Rice lake the canal follows the line of the Trent river. Passing through Rice lake it enters the Otonabee river, the route of which is followed to its source in Katchiwano lake. From this lake the line of the canal passes in succession through Clear lake, Stoney lake, Lovesick lake, Buckhorn lake, Pigeon lake, Sturgeon lake and Cameron lake to the west side of Balsam lake. From here a connection is made by an artificial cutting with a small lake about two miles westward, and from the latter lake another cutting makes connection with Cranberry lake. From the south end of Cranberry lake connection is made with lake Simcoe by another artificial cutting. Pasing through lake Simcoe the route of the canal continues to artificial cutting. Passing through lake Simcoe the route of the canal continues to the Severn river, the line of which is followed to the Georgian bay outlets at Honey harbour and Port Severn. From Trenton the canal rises to a summit at Balsam lake, the level of which is about 597 feet above that of lake Ontario. From Balsam lake to Georgian bay there is a fall of 262 feet. Between Trenton and Washago the canal has been practically completed and open to traffic since June, 1918, or for a distance of 203.6 miles. On the westerly portion of the route of the canal, or between lake Couchiching and Georgian bay, various works are under construction, a description of which will be found under a subheading farther on in this report. When completed, the total length of the canal from lake to lake will be about 236 miles.

Canal in Operation

As already stated in previous reports, that portion of the Trent canal which lies between Trenton and Rice lake was formally opened for traffic on June 3, 1918. The extent of the canal now in operation may therefore be stated as 203.6 miles, or between Trenton and Washago at the head of lake Couchiching. In addition to this is maintained the Lindsay branch, 30 miles in length, and various other channels aggregating in all about 60 miles. The total extent of canal and canalized waterways maintained in operation is therefore slightly over 300 miles.

Of the various repairs and improvements effected during the year, the following may be mentioned. A rubble masonry wall, 100 feet long, was constructed and backfilled below dam 9, connecting the east abutment pier of the dam with the existing concrete retaining wall at the foot of the canal embankment, thus protecting against scour. Above lock No. 12 the catchwater ditch at the toe of the west embankment was regraded for a distance of 1,700 feet, a 12-inch pipe being laid to divert the water to the sewer leading under the canal. At Campbellford, two of the surplus 12-foot piers were used to provide wharfage for the storehouse. The Hydro-Electric Power Commission commenced work on their power-house at lock No. 12 last July and have proceeded with it ever since. A new hydraulic engine for the operation of the gates of the Peterborough lift lock has been delivered at the site. The rebuilding of the lock wall at the southeast quoin of lock No. 27 was completed. In May of last year, the construction of the new dam at Lakefield was commenced, the north half completed and connection made with the old dam. Dockage facilities were improved at Robbins wharf. The new dam at Bobcaygeon, commenced last April, was practically completed by the end of November. Extensive dredging operations were carried on by the spoon dredge *Fenelon* both at Handbridge's and Dangerfield Bar. Four piers at Fenelon were torn down and rebuilt. Material for the new Lindsay wharf has been delivered and work will be started during the coming season. Residences at locks Nos. 3 and 14 were completed. At Peterborough, the timber shed and pattern house were completed. The north and south dams at Drag lake were completed by the beginning of October, after which the old dam was demolished. The Missisaugua dam was commenced in July, and the work progressed satisfac-

torily up to the close of the season. The Loon lake dam was rebuilt during the month of October. Workman's dam, on the Gull river, was rebuilt in the months of November and December, as well as a log slide at the same point. New dams were also constructed at Miskwabi lake and Bass lake rapids.

Though the snowfall and water precipitation of the past year had been below the average, it was found possible to maintain a good flow in the Otonabee river all through the winter from the storage of the Kawartha lakes.

Canal Under Construction

The portion of the canal now under construction lies, as already noted, between Washago, at the head of lake Couchiching, and Honey harbour and Port Severn on Georgian bay, and is known as the Severn Division. This division is for convenience subdivided into four sections, namely, the Port Severn Section, from Port Severn on Matchedash bay to Gloucester pool; Section No. 1, from Honey harbour to the Big chute on the Severn river; Section No. 2, extending from the last-named point up the Severn river to MacDonald's chute; and Section No. 3, from MacDonald's chute to the head of lake Couchiching.

Port Severn Section.—During the past fiscal year no new work was performed on this section. The lock and dams at Port Severn, the principal works on this section, have already been completed.

Section No. 1.—The length of this section is about 17 miles. The work to be undertaken consists in the construction of three locks at South Honey harbour, Little chute and Big chute, respectively, together with regulating dams at Big chute, the outlet of Six mile lake, and at White's portage, while between Big and Little chutes several core dams are to be built. In the river and lake channels there will be a large amount of granite rock excavation. A contract for the work was let in January, 1919, and considerable work was done in the ensuing year. Work under the same contract was continued during the past fiscal year, but operations were confined to the completion of White's Portage dam, corewall "C," and the regulating sluice near the site of Little Chute lock, together with rock excavation on the "centre cut." In addition to the foregoing, considerable less extensive miscellaneous work was carried on by the contractors, such as the unloading of materials, construction of storehouses and floating docks, repairing of machinery and the construction of a rock-filled timber dam at the Hungry bay outlet of Six-mile lake.

Section No. 2.—The principal item of work to be performed on this section, viz., the construction of the Canadian National Railway high-level bridge at Ragged rapids, was completed during the fiscal year.

Section No. 3.—This portion of the canal extends from deep water in lake Couchiching to the easterly end of Section No. 2, a distance of 15¾ miles. The work to be performed consists in the construction of one lock of 20-feet lift, a diversion of the Canadian National Railway, two highway swing-bridges, one highway fixed bridge, one railway swing-bridge, several control dams, and a large amount of rock and earth excavation. In January, 1919, a new contract for the work was entered into with the Randolph Macdonald Company, their contract of 1914 having been surrendered on account of war conditions. During the past year the work performed consisted principally in the levelling off of the Canadian National Railway embankment across the canal prism after the tracks had been diverted to the new bridge, and various other excavation works necessary to provide a through channel for boats of light draught, installation of lock gates and machinery at the Couchiching lock,

the construction of a wooden truss highway bridge at the lower end of this lock, the erection of a steel highway bridge at Rama road, Washago, and various minor works, such as stone protection to banks, sodding and seeding, etc.

On that portion of the Trent canal which has, since June, 1918, been in regular operation, or between Trenton and Washago, certain works have also been performed by the construction forces, among which may be mentioned the building of new dams at Lakefield and Nassau. Work on the Lakefield dam is now well under way, but thus far only preliminary operations have been carried out at the site of the Nassau dam. At Bobcaygeon, a contract has been let covering the construction of a new canal, lock, dam and dry dock. Work on this contract has been prosecuted vigorously during the past year. The concrete wing wall at the northerly end of the dam has been completed, and considerable concrete work done in the dry dock. The dam has been practically completed. Work on the lock has been greatly retarded owing to many difficulties encountered in unwatering operations, and thus far but little progress has been made.

During the past winter, survey work was continued at Pigeon lake and between Lakefield and Burleigh falls. It is hoped that this important work will be continued next season.

St. Peter's Canal

This canal which was constructed between the years 1912 and 1917, and connects the Bras d'Or lakes with St. Peters bay on the southeast coast of Cape Breton island, consists of a tidal lock 300 feet in length and 48 feet in breadth, and provides for a minimum depth of water on the lock sills of 18 feet.

Minor repairs only were found necessary during the fiscal year.

Enlargement of the St. Lawrence Canals

For many years the question of the ultimate enlargement of the St. Lawrence Canal system between lake Ontario and Montreal has been studied by the engineers of this department and much data relating thereto has been obtained.

During recent years, the work of completing definite plans for such an enterprise, became necessary in order to enable us to deal intelligently with proposals, by private corporations, for the development of isolated water-powers which might seriously conflict with any reasonable development of the navigation and power potentialities of the river as a whole. Under this impetus, plans were evolved for a comprehensive development of the upper section of the river.

During the past season, two boring parties have continued the investigation of sub-surface conditions on the sites proposed for structures, and one survey party has been employed obtaining information to supplement that already compiled from records here in the department.

A small office staff has been employed throughout the year in the preparation of plans for this work and Col. W. P. Wooten, United States Army Engineer representing the United States Government and I, representing the Canadian Government, have been preparing plans for this undertaking for a joint engineering report to the International Joint Commission to whom the question of the St. Lawrence canals enlargement has been referred.

CANALS OF CANADA

Name.	Location.	Length in Miles.	Locks. No. of	Minimum dimensions. Length.	Width.	Depth.
				Ft.	Ft.	Ft.
St. Lawrence and Great Lakes.						
Lachine	Montreal to Lachine	8·50	5	270	45	14
Soulanges	Cascades Point to Coteau Landing	14·00	5	280	45	15
Cornwall	Cornwall to Dickinson's Landing	11·00	6	270	45	14
Farran's Point	Farran's Point Rapid	1·25	1	800	50	14
Rapide Plat	Rapide Plat, Morrisburg	3·67	2	270	45	14
Galops	Iroquois to Cardinal	7·33	3	...	...	14
Murray	Isthmus of Murray, Bay of Quinte	5·17	None	...	...	12
Welland	Port Dalhousie, Lake Ontario to Port Colborne, Lake Erie	26·75	26	270	44	14
Sault Ste. Marie	St. Mary's Rapids, 47 miles west of Lake Huron	1·41	1	900	60	19·5
Ottawa and Rideau rivers.						
Ste. Anne Lock	Junction of St. Lawrence and Ottawa rivers	0·12	1	200	45	9
Carillon	Carillon rapids, Ottawa river	0·75	2	200	45	9
Grenville	Long Sault Rapids, Ottawa river	5·75	5	200	45	9
Rideau	Ottawa to Kingston	126·25	47	134	33	5
	Rideau Lake to Perth (Tay Branch)	7·00	2	134	33	5
Richelieu river.						
St. Ours Lock	St. Ours, Que	0·12	1	200	45	7
Chambly	Chambly to St. Johns, Que.	12·00	9	118	22·5	7
Miscellaneous.						
Trent	Trenton to Peterboro Lock, Peterboro	89·0	18	175	33	8·3
	Peterboro Lock to head of Lake Couchiching	114·6	23	134	33	6
	Sturgeon Lake to Port Perry (Scugog Branch)	30·0	1	142	33	6
St. Peter's	St. Peter's Bay to Bras d'Or Lakes, Cape Breton, N.S.	0·49	1	300	48	18

TABLE SHOWING THE DATES OF THE OPENING AND CLOSING OF THE CANALS FOR THE SEASONS 1917, 1918, 1919 AND 1920.

Canals.		1917		1918		1919		1920	
		Opened	Closed	Opened	Closed	Opened	Closed	Opened	Closed
Lachine		April 25	Dec. 15	April 30	Dec. 17	April 16	Dec. 12	May 1	Dec. 11
Soulanges		" 25	" 15	May 1	" 17	" 18	" 12	" 1	" 11
Grenville		" 26	Nov. 26	" 1	Nov. 30	May 1	Nov. 25	" 1	Nov. 30
Carillon		" 26	" 26	" 1	" 30	" 1	" 25	" 1	" 30
Ste. Anne's		" 25	" 30	April 26	" 30	April 17	" 30	April 19	" 27
Chambly		May 1	" 27	May 1	" 30	May 1	" 30	May 1	Dec. 1
St. Ours		" 1	" 27	April 29	" 20	April 23	" 30	April 22	Nov. 25
Cornwall		April 14	Dec. 12	" 24	Dec. 17	" 17	Dec. 13	" 30	Dec. 12
Williamsburg	Farran's Point	" 17	" 10	" 26	" 16	" 17	" 17	" 29	" 13
	Rapide Plat	" 17	" 10	" 24	" 16	" 17	" 13	" 29	" 13
	Galops	" 17	" 10	" 24	" 16	" 17	" 13	" 29	" 13
Murray		" 18	" 1	" 21	" 7	" 14	" 4	" 12	" 4
Welland		" 18	" 8	" 23	" 20	" 19	" 13	" 19	" 15
Sault Ste. Marie		" 25	" 16	" 23	" 17	" 19	" 13	" 23	" 22
Rideau	At Ottawa	May 1	Nov. 30	May 1	Nov. 30	" 11	" 15	May 1	Nov. 30
	At Kingston	" 1	" 19	" 1	" 30	May 1	Nov. 28	" 1	" 29
	Hastings to Rice Lake	" 5	Dec. 4	May 6	" 16	" 15	" 14	" 12	" 8
	Rice Lake to Peterborough	" 5	" 4	April 20	Dec. 4	" 3	" 24	" 3	Oct 30
	Peterborough to Lakefield	" 23	Nov 19	May 17	Nov. 27	" 10	" 25	" 8	Nov. 20
	Peterborough Lift Lock	" 24	" 3	" 17	" 6	" 15	" 7	" 1	" 20
	Lakefield to Bobcaygeon	" 2	" 9	" 9	" 21	April 29	" 15	" 17	" 16
Trent	Bobcaygeon to Rosedale	" 12	" 14	" 6	" 28	" 21	" 18	" 18	" 6
	Kirkfield Lift Lock	June 2	Oct. 24	" 24	Oct 25	May 21	Oct. 23	" 1	" 20
	Kirkfield to Lake Simcoe	May 26	Nov. 1	" 25	Nov. 1	" 7	" 23	April 24	" 13
	Lake Simcoe to Orillia	" 26	" 1	" 25	" 5	" 1	Nov 20	May 8	Oct. 20
	Scugog River and Lindsay Lock	April 18	" 19	April 26	" 22	April 12	Nov. 23	" 14	" 19
St. Peter's		" 16	Jan. 15	May 3	Jan 13	" 10	Jan. 3	" 14	" 19
			1918		1919		1920	" 8	Nov. 15
								April 19	Jan 10 1921

REPORT OF A. W. CAMPBELL, M.E.I.C., COMMISSIONER OF HIGHWAYS

Major GRAHAM A. BELL, C.M.G.,
Deputy Minister,
Department of Railways and Canals,
Ottawa.

SIR,—In my report for the year ending March 31, 1920, it was pointed out that the regulations required for giving effect to the objects and purposes of the Canada Highways Act were approved by Governor in Council and published in the *Canada Gazette* on the 13th day of December 1919; that the chief conditions laid down by these regulations are that the highways to be aided shall comprise such main and market roads as have been designated by the provinces, with a view to encouraging production and stimulating trade and commerce, and as shall be approved by the minister; and that the expenditures called for, under the Canada Highways Act, should supplement the usual amounts granted and devoted to the construction and improvement of highways by the province itself; that, before any agreement be made with respect to any road to be improved, there should be furnished to the Minister by the province a statement setting forth a programme for construction or improvement of a system of highways in the province within the five-year period and towards which the federal grant shall be applied; this statement to be accompanied by a general map of the proposed programme bearing the approval of the Provincial Government and its Highways Department.

The programme map to include:—

1. Roads having greatest local agricultural and commercial importance.

2. Roads having both local and general importance, and that these programmes should be so adjusted and arranged that the whole, when co-related, would form, as far as possible, a general system of interprovincial highways; that application for aid towards specific portions of these roads might then be made from time to time as the necessary information was secured and arrangements made by the provinces for carrying out the work. These applications to be embodied in project statements and to contain the following information:—

(*a*) The purposes the undertaking will serve, and why it is in the public interest;
(*b*) The character and extent of traffic, present and prospective, on the road;
(*c*) How the undertaking relates to the provincial programme;
(*d*) A statement of the type of construction or improvement it is proposed to make, together with a report of the engineer of the Provincial Highways Department endorsing the adoption of the proposed type and design thereof as being the most economical and practicable in the public interest, his reasons therefor, and a full explanation of any special or unusual features thereof;
(*e*) The administrative control of and responsibility for the undertaking;
(*f*) The source and method of procuring the necessary money for the undertaking and the extent to which interested municipalities contribute thereto;
(*g*) Plans in standard form to be prescribed by the Minister and in detail following accepted engineering practice, together with a sketch map showing the position of the proposed project on the general programme map of the province;

(*h*) Specifications in standard form to be prescribed by the Minister setting forth the proposed type and method of construction, materials to be used, and other essentials, in such detail as to afford complete knowledge of all steps to be taken in carrying out the project;

(*i*) Copies of the form of contract to be used, together with all documents referred to therein or made a part thereof; and

(*j*) Estimated cost of the project, giving a schedule of quantities and the estimated cost of each item in detail.

It was thought advisable not to include in the cost of the work right of way and incidental damages, bridges, viaducts, subways, exceptional grade separation, provincial overhead and administrative expenses, the making of surveys, plans, specifications and estimates, or any engineering expense incident to the project prior to the beginning of actual construction; the cost of culverts up to 20-foot span, however, to be allowed.

After the regulations had been promulgated the different provinces undertook the preparation of the necessary programme map of the general system of roads called for by the regulations, and early in the season of 1920 each of the provinces had filed its general programme map. A notice with respect to each of the provincial general programme maps, was placed in the *Canada Gazette,* to the effect that they might be seen by any interested parties, during a period of thirty days, in the Office of the Commissioner. These programme maps have all been found satisfactory.

The chief object of the programme plan is to assure in advance that the Federal appropriation will be devoted to a definite system of roads which the province wishes to carry out.

While the general map prepared by each of the provinces contains the mileage which the province expects to complete during the five years mentioned in the Act, the amount of aid given by the department is confined to specific projects or roads covered by agreements involving amounts up to, but not exceeding, the amount of the Federal appropriation to which each province is entitled; the form of the minister's approval to such general map being in the following words:—

> "Approved as to a general system of interprovincial highways from which projects shall be selected for construction or improvement under the Canada Highways Act to such an extent as funds may be available."

A summary of the general programme statements of each of the Provinces, showing the mileage and estimated cost of work to be completed under the Act, and towards which their portion of the appropriation thereof will be applied, follows:—

Province	Mileage	Total Estimated Cost	Amount of Federal Appropriation to which each Province is entitled
Prince Edward Island	850	$ 850,000	$ 603,455
Nova Scotia	1,297	12,493,700	1,468,720
New Brunswick	1,595	2,914,612	1,163,845
Quebec	1,433	17,390,000	4,748,420
Ontario	1,824.7	22,200,000	5,877,275
Manitoba	4,000	6,602,265	1,602,265
Saskatchewan	2,500	5,329,500	1,806,255
Alberta	2,475	3,694,525	1,477,810
British Columbia	1,977	10,015,050	1,251,955

It will be observed that in some cases the mileage and the estimated cost is greater than that towards which the Federal grant will finance to the extent of forty per cent (40%), but in every instance the province has, by special legislation, made provision for the payment of the additional amount required to carry out the full system planned.

All applications for construction or improvement of roads under the Act, relate to specific portions of road forming this general programme plan, and each application for aid is embodied in a project statement on forms which are supplied by the department, showing the information which is to be supplied by the province to aid the department in passing upon the application and determining the type of road and the amount of money which, in the opinion of the department, would be a reasonable and necessary outlay to meet the requirement of the traffic present and for a reasonable future. All of the project statements filed with the department have been in pursuance of these general programme plans and the work has been carried out in accordance therewith.

Before a project is approved and an agreement entered into the commissioner certifies that the information submitted in the project statement, plans, specifications and exhibits called for by the regulations concerning location, cost, description, time and method of construction has all been approved by the chief engineer, and that in the opinion of the commissioner the proposed work comes within the meaning and scope of the Canada Highways Act.

When a project statement relating to a specific section of road has been approved by the minister an agreement, as provided by the Act, is executed between the province and the minister. This agreement, among other things, provides that the Dominion, in consideration of the premises and subject to the performance and observance on the part of the province, to the satisfaction of the minister, of the covenants, provisions and conditions in the agreement contained, will, in accordance with the Act and the regulations, pay to the province, towards the cost of improvement of the said highway sections, aid to the extent of forty (40%) per centum of the amount which, in the opinion of the minister upon the report and recommendation of the commissioner and chief engineer of highways, is the actual, necessary and reasonable cost of the said improvement.

The right is reserved to withhold such sums as may be deemed necessary to ensure completion of the work in compliance with the plans and specifications thereof.

The department assumes that adequate provision for the maintenance of roads should accompany any plan of construction. To construct highways at large capital expenditure and then allow the work to deteriorate for lack of repair is a useless waste of the initial outlay; improved roads of all classes demand careful and constant attention to their maintenance. After roads have been improved a regular patrol system of maintenance should be inaugurated; suitable material for their repair should be deposited at intervals along the work to be readily available whenever required. The patrolmen should be supplied with suitable road repairing equipment, including motor trucks for carrying repair-material and tools, and they should be charged never to let the roads get out of repair. However great the expenditure on road construction, its finished condition will be short lived unless the organization for repair is proportionate to the traffic.

To ensure the proper maintenance of roads towards which Federal aid is granted each agreement contains the following clause:

> "The province covenants, undertakes and agrees that, after the highway sections herein described have been improved and have been accepted as completed the said province will maintain the said highway sections, or cause the same to be maintained, with all necessary repairs and renewals so as to preserve the standard of construction for the type or class built."

It is further provided by the agreement that where the agreement entered into relates only to a portion of a through road, the province undertakes and agrees to improve the through road, of which the section or sections referred to in the agreement forms a part, up to a uniform standard conforming with the type of road specified for the section under agreement and to maintain the whole road in an

efficient manner, satisfactory to the minister. Such improvement to be carried out within the time limited by the Act, viz: March 31, 1924.

The regulations provide that the supervision of each project by the Provincial Highway Department shall include adequate inspection of work and material by competent engineers throughout the course of construction. To this end, any recommendation of the minister to the Provincial Government with respect to the necessary technical qualifications and experience of the members of the highway organization will be enforced by such government.

Competent responsible engineering supervision is now provided by each province to such an extent as to minimize the necessity for duplicating minute inspection by this department. The interest of Provincial Governments in the growing importance and necessity for improved roads has been gradually awakened and it can no longer be charged that road improvement is treated with neglect by provincial authorities. The principle of centralized supervision and control of roads has been adopted by all provinces and each Provincial Government has now a department or branch having definite responsibility with respect to at least leading roads.

In Prince Edward Island all rural roads are under the management of the Department of Public Works; similarly in Nova Scotia, all roads are constructed and maintained by the province. In New Brunswick, under a provincial highway engineer in the Department of Public Works, provincial expenditure is applied to roads. The province of Quebec has a Department of Roads, a system of provincial roads, and is extending substantial aid to leading municipal roads. Ontario has a Department of Public Highways and has created a system of provincial highways, and for some years has given financial assistance to system of county roads. Manitoba has a Highway Commission in the Department of Public Works. The provinces of Saskatchewan and Alberta have each Highway Departments, and in British Columbia highway construction is the chief duty of the Department of Public Works.

All provincial road work, including that receiving federal aid, is now done under the direction and supervision of experienced departmental engineers and in accordance with standard plans and specifications.

All agreements provide that the Dominion shall have the right at all times, through such officers of this department or such other persons as may be designated or appointed for the purpose, to inspect any work done on the highway sections and any materials supplied therefor.

For the purpose of more careful and economical inspection an inspecting engineer has been appointed for each of the following districts: Nova Scotia and Prince Edward Island with headquarters at Moncton, New Brunswick; Quebec with headquarters at Quebec; Ontario with headquarters at Ottawa; Manitoba, Saskatchewan and Alberta with headquarters at Edmonton; and British Columbia with headquarters at New Westminster; a chief engineer having supervision over all with headquarters at Ottawa. Such districts may be altered and additional inspectors appointed should it be found when all the provinces are taking full advantage of the Act that such additional services are required in order to give the work necessary inspection.

Certified vouchers showing the amounts expended on each section of completed road, also showing the amount, if any, expended on any uncompleted section up to subgrade at the termination of each year are submitted by the province to the department, and when the commissioner certifies that the terms and conditions of the agreement, in respect of the plans and specifications annexed thereto, have been carried out as far as relates to such section, payments are made. An examination of the books, vouchers, etc., relating to the works under agreement in each province is made regularly by auditors of this department, and the certificate of the commissioner is based upon the certificates of the auditors, inspecting and chief engineer.

All expenditure, under the Act, has been made by tender and contract except where it has been shown that such work could be done more expeditiously and economically by day labour. The work of heavy grading, excavations and embankments and the construction of bridges, culverts and of gravelling, macadamizing and other surfacing has been done by contract. It has, however, been found that the work of lighter grading, widening, reshaping and crowning of existing roadbeds and some gravelling could be more economically and satisfactorily done by day labour.

The provinces are all well equipped with the necessary outfit of modern heavy graders, tractors and road-building equipment as well as the necessary organization for carrying out such work, and by using their own equipment and forces much expenditure of making unnecessary surveys, plans and specifications preliminary to awarding contracts has been saved.

All work done by day labour is done with the consent of this department, under the same direct supervision of the provincial district engineer as if it had been done by contract.

As a result of consultation, the Highway Departments of the different provinces have instituted a uniform system of cost accounting in order that reliable data as to actual detailed cost of work performed may be ascertained by our auditors and engineers. This data will serve as a guide in the preparation of future estimates and in governing expenditure during the progress of the works. In addition, such records will enable a proper comparison being made between the cost of doing the work by day labour and contract.

Highway engineering requires that the designs not only insure that the construction will fill the purpose for which they are intended but that the designs finally adopted will be the most economical to meet the requirements, and the estimating capacity of the engineer is the deciding factor between the different designs. Of special value, therefore, is the record of cost data in aiding the engineer in preparing reliable estimates of cost. Much benefit is expected to result from the adoption by the provinces of this uniform method of cost accounting, and much benefit will result to this department by having the method uniform throughout the Dominion.

All of the plans submitted embody uniformly the fundamental principles of road construction, carefully studied location, uniform standard as to width of grade and crowning, the provision of adequate drainage to provide dry and unyielding foundations, the construction in the most durable manner of culverts and bridges, and, generally speaking, providing a firm and finished foundation for future surfacing is the fundamental principle aimed at in all the designs.

The varying conditions of traffic in the provinces will influence the type of surfacing to be followed later. Suitable roads for present service and the development of these on general principles appear to be the method generally adopted. Not only the extent but the character of the traffic enter very largely into the adoption of the class of surfacing to be used. Particularly in industrial districts and in the neighbourhood of large cities and towns, and roads connecting central and railway points the use of motor trucks is rapidly increasing, and these demand such proportionate heavy construction as to necessitate special consideration. The rapidly-growing use of the motor vehicle as a means of travel and transport and the growing recognition of the benefits to result have made the demands for better roads throughout Canada general and persistent.

The value of the motor car to agriculture and commerce is undoubtedly very great. Horse-drawn traffic is limited and local in its range, but the motor vehicle—very capable of a speed and long-distance service—has added materially to the demand for better roads and the demand is for a higher standard and more costly construction. The rapid increase in the use of the motor vehicle by every class of the community and for every kind of transport justifies the reasonable and necessary outlay required

to produce a road suitable to provide in a practical way for the profitable operation of all road vehicles using it, and for the maintenance of such road and vehicles in a desirable and economical manner.

In the days of the horse-drawn vehicle, traffic was restricted largely to the township, seldom beyond the county, but with the vehicle of to-day and the vehicle of the future it is quite apparent that even provincial boundaries will be in some measure forgotten. To meet this growing demand, road building should hereafter be treated as a work to be broadly viewed, seriously considered, carefully designed and carried out by capable and economical methods, and then maintained by practical methods of care and attention, and this is the instruction which is being pressed upon those who have charge of the work towards which federal aid is granted.

A statement is attached hereto showing the number and location of projects for which agreements have been entered into between the Dominion Government and the various provinces, giving the mileage, total estimated cost, average cost per mile and the amount of federal appropriation of each project, for the fiscal year ending March 31, 1921.

SUMMARY OF PROJECTS UNDER AGREEMENT BETWEEN THE DOMINION GOVERNMENT AND THE VARIOUS PROVINCES (to Mar. 31, 1921).

Name of Province	No. of Projects	Mileage	Total Estimated Cost	Average Cost per mile	40 p.c. of Estimated Cost
			$ cts.	$ cts.	$ cts.
Prince Edward Island	8	63·0	113,070 00	17,936 51	45,228 00
Nova Scotia	4	44·3	405,198 95	9,146 70	162,079 58
New Brunswick	.....	.....	.....	.....	.....
Quebec	10	154·6918	1,835,402 53	11,864 90	734,161 01
Ontario	16	526·02	9,502,580 05	18,065 05	3,801,032 02
Manitoba	.....	.....	.....	.....	.....
Saskatchewan	3	104·25	171,569 91	1,645 75	68,627 96
Alberta	.....	.....	.....	.....	.....
British Columbia	9	138,146	1,059,347 65	7,668 33	423,739 06
	50	1,030·4078	13,087,169 09	12,700 96	5,234,867 64

NOTE.—Up to the close of the fiscal year ending March 31, 1921, no project statements had been approved for New Brunswick, Manitoba, and Alberta, but during the months of April and May following project statements practically covering the whole of the appropriation allotted to New Brunswick and Manitoba were approved and agreements entered into.

LIST OF PROJECTS UNDER AGREEMENT BETWEEN THE DOMINION GOVERNMENT AND THE PROVINCE OF PRINCE EDWARD ISLAND (March 31, 1921)

Project No.	Location of Project	Mileage	Total Estimated Cost	Type of Construction
			$ cts.	
1	Georgetown Road (10-Mile House to County line).	8·0	11,835 00	Earth road built to form suitable base for future gravel or macadam surface.
2	Tryon Road (New Haven to Queen's Arms).	8·0	12,680 00	Improved earth road.
3	Irish-Town Road (Kensington to Bryenton's Corner).	3·5	9,300 00	" "
4	Western Road (O'Leary Road to Mount Pleasant).	12·0	24,040 00	" "
5	Souris Road)McMahon's Bridge to Elmira Road).	8·5	16,055 00	" "
6	Dundas Road (Dundas to Rollo Bay)	8·5	16,460 00	" "
7	Johnson's River Road (Bovyer's Brook to Webster Corners).	9·0	12,750 00	" "
8	Montague Road (Montague to Cardigan Road).	5·5	9,950 00	" "
	Total	63·0	113,070 00	

LIST OF PROJECTS UNDER AGREEMENT BETWEEN THE DOMINION GOVERNMENT AND THE PROVINCE OF NOVA SCOTIA

(March 31, 1921)

Project No.	Location of Project	Mileage	Total Estimated Cost	Type of Construction
			$ cts.	
2	Halifax to Indian River	17·5	211,944 60	Gravel surfaced.
3	Mount Uniake to Lakelands	7·6	56,121 75	Waterbound macadam
5	Aylesford to Middleton	12·1	91,529 10	Waterbound macadam
6	Elmsdale to Shubenacadie	7·1	45,603 50	Gravel macadam
	Total	44·3	405,198 95	

LIST OF PROJECTS UNDER AGREEMENT BETWEEN THE DOMINION GOVERNMENT AND THE PROVINCE OF QUEBEC

(March 31, 1921)

Project No.	Location of Project.	Mileage	Total Estimated Cost	Type of Construction
			$ cts.	
1	Montreal-Longueuil-Sherbrooke Highway—			
	Subsection A2 (Orford Twp., Sherbrooke Co.)	3·09	50,966 00	Gravel.
	" C1 (Magog Twp., Stanstead Co.)	2·59	48,758 00	"
	" D1 (Magog Twp., Stanstead Co.).	0·82	24,799 00	Cement concrete.
	" E1 (East Bolton Twp., Brome Co..	2·07	54,123 00	Gravel.
	" E2 (East Bolton Twp., Brome Co.)	2·48	36,729 00	"
	" H1 (Shefford Twp., Shefford Co.)	2·31	52,716 00	"
	" M1 (St. Cesaire Parish, Rouville Co.).	3·305	47,500 00	"
	" Q1 (Ste-Marie de Monnoir Parish, of Rouville).	1·2528	18,661 00	Waterbound macadam treated with Tarvia "B".
2	Montreal to Quebec Highway—			
	15 Sections (Counties of Quebec, Champlain, Berthier, Joliette and L'Assomption).	48·13	140,935 48	37·25 miles carpet coa 1·65 miles asphaltic concrete. 9·23 miles stone shoulder.
3	Levis-St. Lambert Highway—			
	Subsection B1 (Parish of St. David, County B2 of Levis.	1·951	37,683 00	Concrete.
	" C1-C2 (Municipality St. Telesphore).	0·893	16,339 13	Concrete.
	" D3 (St. Romuald Parish, Levis Co.).	0·713	20·773 65	Concrete and macadam.
	" E1 (Parish St. Nicholas, Levis Co.).	6·818	162,734 50	Waterbound macadam.
	" L1-L3 (Deschaillons Village, Lotbiniere County).	4·120	97,559 39	Concrete.
	" NN2 (Contracœur Par., Vercheres Co.).	2·0	32,434 80	Waterbound macadam, Tarvia "B"
	" TT1-TT2 (Parish of Boucherville, TT3 (Co. of Chambly).	2·684	76,646 95	(Concrete on Section 1; balance bituminous macadam.
	" WW (Longueuil Parish, Chambly Co.).	2·914	69,869 55	1·929 miles concrete, 0·985 miles bituminous macadam.
4	Caughnawaga-Malone Highway—			
	Section A (from Ferry Landing S. shore Lake St. Louis to Southern limit of Caughnawaga Indian Reserve).	3·5	74,100 00	Bituminous macadam.
	Subsection D1 (N. limit Parish Ste-Martine South).	1·950	72,390 50	" "
	" D3 (from Bean River Road southerly).	2·317		" "

PROVINCE OF QUEBEC—*Continued.*

Project No.	Location of Projects	Mileage	Total Estimated Cost	Type of Construction
			$ cts.	
5	Beauce Jct.-Sherbrooke Highway—			
	Subsection A2 (Parish L'enfant Jesus, Beauce Co.).	1·20	37,711 79	Gravel.
	" B1-B2 (Parish St. Frederic, Beauce	4·267	192,594 86	"
	" C3 (Parish Sacre-Cœur de Jesus, Beauce County).	1·121		"
	" E1-E3 (Parish Sacre-Cœur de Marie, Megantic County).	1·051		"
	" L1-L3 (Parish Disraeli, County Wolfe).	0·722		
	" M2 (Disraeli Village, County of Wolfe).	0·688		"
	" N2-N5-N7 (Parish Garthby, Co. Wolfe).	2·589		"
	" P1-P2-P4-P6-P8 (Twp. Weedon, County Wolfe).	2·348		"
	" Q2-Q4-Q6 (Lac Weedon Village, County Wolfe).	2·386		"
	" R1-R3 (Weedon Centre Village, County Wolfe).	0·945		"
	" T2-T3-T4 (Twp. Dudswell, County Wolfe).	6·704		"
	" S1-S3 (Marbleton Village, County Wolfe).	3·730	46,286 00	"
6	Levis-Riviere-du-Loup-Rimouski Highway—			
	Section B (Bienville Village, Co. Levis).....	0·257	17,000 00	Concrete.
9	Montreal-Rouses Point Highway—			
	Subsection C2 (Laprairie Dyke, Co. Laprairie	1·520	54,000 00	Waterbound macadam and Tarvia "B".
	" C3 (Laprairie Parish, Co. Laprairie).	1·140	20,529 89	" " "
	" D2 (Laprairie Parish, Co. Laprairie).	0·270	4,810 57	" " "
10	Levis-Sherbrooke Highway—			
	Subsection N1 (E. Bdy. Princeville, easterly)	3·878	21,382 20	Gravel.
	" N2 (S. limit Princeville, southeasterly).	3·797	38,311 20	Gravel.
11	Montreal-Mount Laurier Highway—			
	Sub-sections E2-E4-E6 (Parish of St. Janviere, County of Terrebonne).	2·144	20,024 10	Gravel.
	Section F (Parish Ste. Monique).....	0·132	5,125 37	0·06 mile concrete; balance gravel.
	Subsections G1-G3-G5-G7 (Parish of St. Jerome, County of Terrebonne).	7·249	92,972 22	Gravel.
	Subsection G4 (Parish of St. Jerome).....	0·378	15,516 75	Concrete.
	" H (Shawville Village, Co. Terrebonne).	0·833	5,114 63	Gravel.
14	Laprairie-Lacolle Highway—			
	Subsection B1 (Parish St. Luc, County St John).	5·220	59,000 00	Waterbound macadam.
	" C3 (Southerly from Town of St. Johns).	4·215	69,304 00	Waterbound macadam.
	Total.....	154·6918	1,835,402 53	

LIST OF PROJECTS UNDER AGREEMENT BETWEEN THE DOMINION GOVERNMENT AND THE PROVINCE OF ONTARIO

(March 31, 1921)

Project No.	Location of Project	Mileage	Total Estimated Cost	Type of Construction
			$ cts.	
2	Whitby to Belleville	75·91	805,000 00	Waterbound macadam in Whitby; balance gravel.
3	Belleville to Kingston	46·35	616,650 00	Macadam.
4	Kingston to Brockville	45·23	698,100 00	"
5	Brockville to Prescott	10·4	221,100 00	Waterbound macadam, bituminous surface.
6	Ottawa to Prescott	58·7	1,790,879 00	Concrete or bituminous
7	Hamilton to Stoney Creek	5·0	128,550 00	Macadam, bit. surfacing
8	Stoney Creek to Queenston	32·2	485,200 00	" " "
9	Hamilton to Brantford	19·18	658,907 05	" " "
10	Brantford to Woodstock	24·35	402,600 00	Gravel and bit. surfacing
11	Woodstock to Ingersoll	7·16	231,000 00	" " "
12	Ingersoll to London	15·8	521,000 00	" " "
17	Jarvis to Hamilton	24·15	276,725 00	Tp. of Walpole waterbound macadam; balance of road bituminous macadam.
23	London to Stratford	34·62	474,754 00	Gravel, bit. surfacing.
25	Toronto to Hamilton	30·57	749,865 00	Bituminous macadam.
27	Toronto to Bradford	27·21	309,240 00	" "
33	Ottawa to Point Fortune	69·19	1,133,010 00	Gravel on Sec. 9-10; balance bituminous macadam.
	Total	526·02	9,502,580 05	

LIST OF PROJECTS UNDER AGREEMENT BETWEEN THE DOMINION GOVERNMENT AND THE PROVINCE OF SASKATCHEWAN

(March 31, 1921)

Project No.	Location of Project	Mileage	Total Estimated Cost	Type of Construction
			$ cts.	
1	Cadillac-Battleford Highway—			
	Section G (Battleford to North Battleford)	2·5	11,102 00	Gravel.
2	Assiniboia-Prince Albert Highway—			
	Section B (Crestwynd to Moosejaw)	25·0	28,294 00	Earth and sand clay.
	" D (NE. 36-19-27-2 to NE. 32-20-26-2)	9·0	16,996 15	Earth.
	" G (NE. 33-34-27-2 to Dana)	25·0	25,430 00	Earth and sand clay.
3	Big River-Prairie River Highway—			
	Section A (Prairie River to SE. 6-43-7-2)	16·25	36,912 76	Earth road.
	" F (Prince Albert to Shellbrook)	26·50	52,835 00	Earth and sand clay.
	Total	104·25	171,569 91	

LIST OF PROJECTS UNDER AGREEMENT BETWEEN THE DOMINION GOVERNMENT AND THE PROVINCE OF BRITISH COLUMBIA

(March 31, 1921)

Project	Location of Project	Mileage	Total Estimated Cost	Type of Construction
			$ cts.	
1	Alberni-Victoria Highway			
	Section A (Craigflower Bridge to Parsons Bridge).	2·046	74,200 00	Concrete.
4	Vancouver-Ladner Highway—			
	Section A (South from crossing of north arm of Fraser River).	2·650	49,000 00	Half Lithia pavement; half asphaltic pavem't
	" B (From Woodward's Landing north and west).	1·890	66,000 00	Concrete.
6	Caulfield-Roche Point Highway—			
	Section A (from West b'dy North Vancouver City, westward 1 mile).	1·000	20,000 00	Bitulithic.
9	Vancouver-Hope Highway—			
	Section A (from New Westminster Br. south)	3·270	126,000 00	Concrete.
	" B (from Sec. A to Johnston Road)...	2·300	100,000 00	Concrete.
18	Fort George-Hazelton Highway—			
	Section F (Endako to Burns Lake).....	32·000	93,200 00	Earth; later gravel.
	" G (Burns Lake to Rose Lake).....	16·000	33,474 00	" "
	" I (North Bulkley to Houston).....	7·000	19,698 00	" "
19	Burns Lake-Francois Lake (entire project).....	15·000	44,400 00	Gravel.
22	Vernon-Revelstoke Highway—			
	Section A (from 5·5 miles west of Revelstoke westerly).	3·300	7,500 00	Material available on site.
	" B (from section A westerly).....	7·840	33,848 50	" "
	" C (from South end Mara Lake northerly).	3·220	86,886 00	" "
23	Osoyoos-Crow's Nest Pass Highway—			
	Section A (Creston to Yahk near Goat river)	1·280	5,000 00	Diversion (clearing and grading).
	" B (Thrums to Brilliant).....	4·500	33,492 00	New Road (gravel surface).
	" C (Osoyoos to Rock Creek).....	13·070	104,205 50	Gravel.
	" D (Rossland westerly).....	6·750	76,347 50	New construction.
	" E (Kuskanook to Creston).....	5·660	21,096 15	New construction and grading old road.
24	Nelson-New Denver Highway—			
	Section A (Kaslo-Ainsworth).....	4·200	20,000 00	Gravel or local material.
	" B (New Denver to Three Forks)....	5·170	45,000 00	" "
		138·146	1,059,347 65	

REPORT OF THE DEPARTMENTAL ACCOUNTANT

General Summary of the Expenditure and the Revenue for the Fiscal Year ending March 31, 1921, and previous years

I.—EXPENDITURE.	$ cts.	$ cts.
Total expenditure for the year	.....	74,809,181 68
This expenditure is divided as follows:—		
Railways, including Quebec Bridge	50,103,403 71	.....
Canals	8,573,020 93	.....
General expenditure	16,132,757 04	74,809,181 68
Grand Total Expenditure to March 31, 1921	.....	1,210,358,992 83
This expenditure is divided as follows:—		
Railways, including Quebec Bridge	999,420,074 47	.....
Canals	187,000,973 60	.....
General expenditure	23,937,944 76	1,210,358,992 83
II.—REVENUE RECEIVED.		
Revenue received for fiscal year	.....	37,180,360 39
Railways	36,814,349 70	.....
Canals	366,010 69	
		37,180,360 39
Grand total revenue to March 31, 1921	.....	410,142,390 24
Railways	391,866,392 09	
Canals	18,275,998 15	
		410,142,390 24

The principal expenditures during fiscal year follow:—	
Canadian Government Railways working expenses	43,770,971 10
" " " capital	5,588,469 73
Purchase of railways	731,018 35
Quebec Bridge	24,555 50
Miscellaneous railway equipment	15,543,373 46
Railway Commission, maintenance	192,600 42
" " statute	55,833 28
" " fuel control	10,854 39
Surveys and inspections, railways	80,941 87
Railway Grade Crossing Fund	56,772 62
Governor General's cars	12,301 24
Acquisition of the Grand Trunk Railway	799,941 02
Commissioner of Highways	18,625 58
Canada Highways Act	535,000 97
Workmen's Compensation Act	11,381 22
Welland ship canal	5,070,297 57
Trent canal	379,664 11
Surveys and inspections, canals	80,693 94
Civil Service Amendment Act	8,209 67
Canals expenditure	3,034,155 64
General Expenditure	26,473 14
Total	76,032,134 82
Less sale of Steamers *Sheba*, *Drummond* and *McKee*	1,222,953 14
	74,809,181 68

EXPENDITURE

General Statement of Expenditure during the year ending March 31, 1921

——	$ cts.	$ cts.
Total expenditure	.....	74,809,181 68
Expenditure chargeable to railways	50,078,848 21	
" " canals	8,573,020 93	
" " Quebec Bridge	24,555 50	
General expenditure	16,132,757 04	
Total expenditure	.....	74,809,181 68
Classification of expenditure in general—		
Capital account	26,089,870 08	
Income account	3,016,424 37	
Revenue account	45,702,887 23	74,809,181 68
Classification of expenditure by accounts—		
Railways—		
Capital expenditure—Railways	.....	5,096,534 94
Revenue expenditure—Railways	43,770,971 10	
Revenue expenditure—Railways, general	2,000 00	43,772,971 10
Income expenditure—Railways, general	.....	1,209,342 17
Total expenditure on railways, $50,078,848 21.		
Quebec Bridge—		
Income expenditure	.....	24,555 50
Canals—		
Capital expenditure—Canals	.....	5,449,961 68
Income expenditure—Canals	1,104,239 51	
Income expenditure—Canals, general	88,903 61	1,193,143 12
Revenue expenditure—Canals staff	815,979 22	
Revenue expenditure—Canals staff, general	144,828 44	960,807 66
Revenue expenditure—Canals, repairs	920,992 94	
Revenue expenditure—Canals, repairs, general	48,115 53	969,108 47
Total expenditure on canals, $8,573,020.93.		
General expenditure—Capital account	15,543,373 46	
" " Income account	589,383 58	16,132,757 04
Total expenditure	.....	74,809,181 68

REVENUE

General Statement of the Revenue received during the year Ending March 31, 1921.

——	$ cts.	$ cts.
Total revenue received during fiscal year	.....	37,180,360 39
Revenue from railways	36,814,349 70	
" canals	366,010 69	
Total revenue as above	.....	37,180,360 39
Statement of revenue received, in detail—		
Railways—		
Intercolonial Railway, including New Brunswick and Prince Edward Island Railway	23,656,630 73	
Prince Edward Island Railway	750,973 63	
National Transcontinental Railway	11,853,128 70	
Moncton and Buctouche Railway	47,251 95	
Elgin and Havelock Railway	14,776 51	
St. Martins Railway	22,070 77	
York and Carleton Railway	5,687 38	
Salisbury and Albert Railway	59,187 46	
Lotbinière and Megantic Railway	22,001 27	
Caraquet and Gulf Shore Railway	72,725 29	
Cape Breton Railway	9,655 66	
Quebec and Saguenay Railway	30,890 99	
Hudson Bay Railway	97,652 15	
Total	36,642,632 49	
St. John and Quebec Railway	171,717 21	
Total revenue from railways	.....	36,814,349 70
Canals—		
Welland canal	116,906 64	
Welland canal, Port Colborne elevator	25,078 83	
Welland Ship canal	5,858 75	
Lachine canal	161,494 91	
Beauharnois canal	13,393 15	
Cornwall canal	23,767 64	
Williasmburg canal	2,802 10	
Soulanges canal	3,522 49	
Chambly canal	692 00	
Carillon and Grenville canal	543 00	
Rideau canal	7,175 85	
Trent canal	4,162 33	
St. Peter's canal	5 00	
Sault Ste. Marie canal	116 00	
Murray canal	258 00	
Ste. Anne Lock and canal	232 00	
Chats Falls canal	200	
Total revenue from canals	.....	366,010 69
Total revenue received during fiscal year	.....	37,180,360 39

EXPENDITURE on Railways for year ending March 31, 1921.

Name of Railways.	Capital.	Income.	Revenue Working Expenses.	Total.
	$ cts.	$ cts.	$ cts.	$ cts.
Intercolonial Railway	2,752,984 40	.....	26,708,187 87	29,461,172 27
New Brunswick and Prince Edward Island Railway	88,933 54	.....	*	88,933 54
Prince Edward Island Railway	56,924 27	.....	1,329,349 19	1,386,273 46
International Railway of New Brunswick	37,959 74	.....	.....	37,959 74
National Transcontinental Railway	1,113,921 91	.....	14,579,155 76	15,693,077 67
Moncton and Buctouche Railway	49,584 22	.....	76,312 92	125,897 14
Salisbury and Albert Railway	87,606 39	.....	126,934 16	298,930 96
" " " Purchase	84,390 41			
St. Martins Railway	92,364 42	.....	62,714 39	177,548 33
" " Purchase	22,469 52			
Elgin and Havelock Railway	13,233 93	.....	53,992 81	100,756 74
" " " Purchase	33,530 00			
York and Carleton Railway	838 91	.....	22,646 06	23,484 97
Quebec & Saguenay Railway	333,816 50	.....	44,598 93	378,415 43
Caraquet & Gulf Shore Railway	79,600 00	.....	106,121 41	335,721 41
" " " Purchase	150,000 00			
Lotbinière & Megantic Railway	9,840 00	.....	43,171 86	389,886 86
" " " Purchase	336,875 00			
Canadian Government Railways—Miscellaneous railway equipment	840,825 31	.....	.....	840,825 31
Cape Breton Railway	103,753 42	.....	24,432 31	128,185 73
Hudson Bay Railway	30,036 19	.....	149,237 32	179,273 51
	6,319,488 08	.....	43,326,854 99	49,646,343 07
St. John & Quebec Railway	.....	.....	444,116 11	444,116 11
Quebec Bridge	.....	24,555 50	.....	24,555 50
	6,319,488 08	24,555 50	43,770,971 10	50,115,014 68
Less proceeds of sale of:—				
S.S. "Sheba" (Hudson Bay Ry.)	151,099 90	.....	.....	.....
S.S. "Drummond" (Can. Govt. Rys.)	550,339 13	.....	.....	.....
S.S. "McKee" (Can. Govt. Rys.)	521,514 11	.....	.....	1,222,953 14
	5,096,534 94	24,555 50	43,770,971 10	48,892,061 54

*Included with Intercolonial Railway Working Expenses.

EXPENDITURE on Railways for the year ending March 31, 1921—*Concluded*

Name of Railways.	Capital.	Income	Revenue Working Expenses.	Total .
	$ cts.	$ cts.	$ cts.	$ cts.
Railway Commission, maintenance	.....	192,600 42	.....	192,600 42
Railway Commission, statutory	.....	55,833 28	.....	55,833 28
Railway Commission, Fuel Control	.....	10,854 39	.....	10,854 39
Surveys and inspections	.....	80,941 87	.....	80,941 87
Railway Grade Crossing Fund	.....	56,772 62	.....	56,772 62
Governor General's cars, attendance, etc	.....	12,301 24	.....	12,301 24
Contribution to the International Association of Railways Congress	.....	97 33	.....	97 33
To provide for payment of expenses in connection with acquisition of the Grand Trunk and associated railway systems	.....	799,941 02	.....	799,941 02
Compassionate allowance to widow and children of the late J. L. A. Frobe	.....	.....	2,000 00	2,000 00
	.....	1,209,342 17	2,000 00	1,211,342 17
Grand total railways	5,096,534 94	1,233,897 67	43,772,971 10	50,103,403 71
MISCELLANEOUS.				
War appropriation	.....	8,414 80	.....	8,414 80
Miscellaneous railway equipment	15,543,373 46	.....	.....	15,543,373 46
Commissioner of Highways	.....	18,625 58	.....	18,625 58
Arbitrations and awards and cost of litigation	.....	831 21	.....	831 21
Printing and stationery	.....	6,526 51	.....	6,526 51
Canada Highways Act	.....	535,000 97	.....	535,000 97
Workmen's Compensation Act, Chapter 15, Statutes of Canada, 1918	.....	11,381 22	.....	11,381 22
Retirement Act, 1920, Superannuation No. 4	.....	8,603 29	.....	8,603 29
	15,543,373 46	589,383 58	.....	16,132,757 04

EXPENDITURE on Canals for year ended March 31, 1921.

Name of Canal.	Chargeable to Capital.	Chargeable to Income.	Chargeable to Revenue.		Total.
			Staff.	Repairs.	
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Carillon and Grenville	.....	34,622 46	28,174 74	18,852 01	81,649 21
Chambly	.....	16,830 51	43,183 94	57,204 04	117,218 49
Cornwall	.....	18,312 92	84,761 42	71,164 83	174,239 17
Lachine	.....	101,304 33	113,486 79	208,232 76	423,023 88
Murray	.....	.....	6,209 21	5,189 37	11,398 58
Rideau	.....	.....	76,322 70	112,428 14	118,750 84
Sault Ste. Marie	.....	.....	33,300 41	28,274 77	61,575 18
Soulanges	.....	29,668 18	41,829 42	103,835 91	175,333 51
Ste. Anne lock	.....	9,751 10	5,699 31	7,064 81	22,515 22
Lake St. Francis	.....	1,984 40	.....	.....	1,984 40
St. Ours lock	.....	.....	5,255 34	11,932 69	17,188 03
St. Peters	.....	.....	5,529 42	536 75	6,066 17
Trent	379,664 11	310,489 02	106,118 89	91,842 85	888,114 87
Welland	.....	575,067 87	225,509 08	179,295 80	979,872 75
Welland ship	5,070,297 57	.....	.....	.....	5,070,297 57
Williamsburg	.....	6,208 72	40,598 55	25,138 21	71,945 48
	5,449,961 68	1,104,239 51	815,979 22	920,992 94	8,291,173 35
General on Canals.					
Dredge vessels, Quebec canals	.....	.....	.....	12,878 39	12,878 39
" Rideau canal	.....	.....	.....	29,280 85	29,280 85
Statistical officers	.....	.....	38,811 86	.....	38,811 86
Sunday labour	.....	.....	74,520 70	.....	75,520 70
Surveys and inspections	.....	80,693 94	.....	.....	80,693 94
Quebec Canals.					
Maintenance	.....	.....	31,416 55	.....	31,416 55
Hungry Bay dyke	.....	.....	.....	5,956 29	5,956 29
Miscellaneous.					
Civil Service Amendment Act, gratuities to dependents of deceased employees	.....	8,209 67	.....	.....	8,209 67
Canals revenue	.....	.....	79 33	.....	79 33
Total	.....	88,903 61	144,828 44	48,115 53	281,847 58
Grand total	5,449,961 68	1,193,143 12	960,807 66	969,108 47	8,573,020 93

RECAPITULATION OF EXPENDITURE.

—	Capital.	Income.	Revenue.	Total.
	$ cts.	$ cts.	$ cts.	$ cts.
Expenditure on railways, including subsidies	5,096,534 94	1,233,897 67	43,772,971 10	50,103,403 71
Expenditure on canals	5,449,961 68	1,193,143 12	1,929,916 13	8,573,020 93
Miscellaneous expenditure, general	15,543,373 46	589,383 58	.....	16,132,757 04
Grand total	26,089,870 08	3,016,424 37	45,702,887 23	74,809,181 68

IMPERIAL GOVERNMENT ACCOUNT

STATEMENT of Expenditure to March 31, 1921, in connection with the lifting of rails for the use of the Imperial Government; all costs, damages and expenses to be borne by His Majesty's Government in England as per Order in Council, Ottawa, December 19, 1916.

——	$ cts.
Expenditure fiscal year 1916-17	393,053 86
" " 1917-18	3,603,279 05
" " 1918-19	178,680 85
" " 1919-20	348,103 36
" " 1920-21	777,814 83
Total	5,300,931 95

EXPENDITURE on Canals to March 31, 1921.

CAPITAL ACCOUNT.

Canals.	Previous Years.	1920-21.	Total.
	$ cts.	$ cts.	$ cts.
Baie Verte	.....	.....	.....
Beauharnois	1,636,690 26	.....	1,636,690 26
Carillon and Grenville	4,191,756 51	.....	4,191,756 51
Chambly	780,996 52	.....	780,996 52
Cornwall	7,246,304 21	.....	7,246,304 21
Culbute lock and dam	382,391 46	.....	382,391 46
Lachine	14,132,684 80	.....	14,132,684 80
Lake St. Francis	75,906 71	.....	75,906 71
Lake St. Louis	298,176 11	.....	298,176 11
Murray	1,248,946 71	.....	1,248,946 71
Rideau	4,210,274 31	.....	4,210,274 31
Sault Ste. Marie	4,935,809 42	.....	4,935,809 42
Soulanges	7,904,044 53	.....	7,904,044 53
Ste. Anne lock	1,170,215 63	.....	1,170,215 63
St. Lawrence River and Canals—			
North channel	1,995,142 87	.....	1,995,142 87
River reaches	483,830 20	.....	483,830 20
Galops channel	1,039,895 65	.....	1,039,895 65
St. Ours lock	127,228 56	.....	127,228 56
St. Peter's	648,547 14	.....	648,547 14
Tay	489,599 23	.....	489,599 23
Trent	18,274,531 63	379,664 11	18,654,195 74
Welland	29,399,405 93	.....	29,399,405 93
Welland ship	20,270,436 25	5,070,297 57	25,340,733 82
Williamsburg	1,334,551 80	.....	1,334,551 80
Farran's Point	877,090 57	.....	877,090 57
Galops	6,143,468 11	.....	6,143,468 11
Rapide Plat	2,159,880 80	.....	2,159,880 80
Total	131,457,805 92	5,449,961 68	136,907,767 60
Canals, general	34,966 69	.....	34,966 69
Grand total	131,492,772 61	5,449,961 68	136,942,734 29

INCOME ACCOUNT.

Baie Verte	44,387 53	.....	44,387 53
Beauharnois	265,810 84	.....	265,810 84
Carillon and Grenville	367,466 59	34,622 46	402,089 05
Chambly	774,118 98	16,830 51	790,949 49
Cornwall	618,806 17	18,312 92	637,119 09
Culbute lock and dam	60,923 37	.....	60,923 37
Lachine	1,634,907 53	101,304 33	1,736,211 86
Lake St. Francis	25,043 68	1,984 40	27,028 08
Lake St. Louis	.....	.....	.....
Murray	101,457 76	.....	101,457 76

EXPENDITURE on Canals to March 31, 1921.

INCOME ACCOUNT—*Concluded*

Canals.	Previous Years.	1920-21.	Total.
	$ cts.	$ cts.	$ cts.
Rideau	679,479 05	.....	679,479 05
Sault Ste. Marie	280,098 04	.....	280,098 04
Soulanges	231,046 09	29,668 18	260,714 27
St. Anne lock	85,429 18	9,751 10	95,180 28
St. Lawrence river and canals	128,298 11	.....	128,298 11
St. Ours lock	174,028 88	.....	174,028 88
St. Peters	735,550 22	.....	735,550 22
Tay	748 65	.....	748 65
Trent	1,064,568 89	310,489 02	1,375,057 91
Welland	2,113,677 93	575,067 87	2,688,745 80
Welland ship	.....	.....	.....
Williamsburg	349,494 12	6,208 72	355,702 84
Total	9,735,341 61	1,104,239 51	10,839,581 12
Canals, general	747,358 98	88,903 61	836,262 59
Grand total	10,482,700 59	1,193,143 12	11,675,843 71

REVENUE ACCOUNT—REPAIRS.

Beauharnois	525,691 23	.....	525,691 23
Carillon and Grenville	629,858 57	18,852 01	648,710 58
Chambly	1,070,842 51	57,204 04	1,128,046 55
Cornwall	1,129,531 23	71,164 83	1,200,696 06
Culbute lock and dam	7,036 15	.....	7,036 15
Lachine	2,520,120 47	208,232 76	2,728,353 23
Murray	111,290 09	5,189 37	116,479 46
Rideau	2,018,959 34	112,428 14	2,131,387 48
Sault Ste. Marie	449,362 42	28,274 77	477,637 19
Soulanges	698,983 78	103,835 91	802,819 69
Ste. Anne lock	155,426 70	7,064 81	162,491 51
St. Curs lock	114,653 73	11,932 69	126,586 42
St. Peter's	36,680 81	536 75	37,217 56
Trent	898,537 24	91,842 85	990,380 09
Welland	4,109,216 83	179,295 80	4,288,512 63
Welland ship	.....	.....	.....
Williamsburg	680,003 08	25,138 21	705,141 29
Total	15,156,194 18	920,992 94	16,077,187 12
Caaals, general	635,491 65	48,115 53	683,607 18
Grand total	15,791,685 83	969,108 47	16,760,794 30

REVENUE ACCOUNT—STAFF.

Beauharnois	649,574 89	.....	649,574 89
Carillon and Grenville	894,524 19	28,174 74	922,698 93
Chambly	1,098,236 55	43,183 94	1,141,420 49
Cornwall	1,902,647 84	84,761 42	1,987,409 26
Culbute lock and dam	11,507 48	.....	11,507 48
Lachine	3,065,940 03	113,486 79	3,179,426 82
Murray	161,337 99	6,209 21	167,547 20
Rideau	1,924,313 34	76,322 70	2,000,636 04
Sault Ste. Marie	509,181 46	33,300 41	542,481 87
Soulanges	654,924 52	41,829 42	696,753 94
Ste. Anne lock	129,087 96	5,699 31	134,787 27
St. Ours lock	132,393 92	5,255 34	137,649 26
St. Peter's	132,336 38	5,529 42	137,865 80
Trent	812,707 14	106,118 89	918,826 03
Welland	5,486,120 82	225,509 08	5,711,629 90
Williamsburg	772,033 97	40,598 55	812,632 52
Total	18,336,868 48	815,979 22	19,152,847 70
Canals, general	2,323,925 16	144,828 44	2,468,753 60
Grand total	20,660,793 64	960,807 66	21,621,601 30

TOTAL EXPENDITURE by Canals to March 31, 1921.

Canals	Capital	Income	Revenue		Totals
			Staff	Repairs	
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Baie Verte	.....	44,387 53	.....	.....	44,387 53
Beauharnois	1,636,690 26	265,810 84	649,574 89	525,691 23	3,077,767 22
Carillon and Grenville	4,191,756 51	402,089 05	922,698 93	648,710 58	6,165,255 07
Chambly	780,996 52	790,949 49	1,141,420 49	1,128,046 55	3,841,413 05
Cornwall	7,246,304 21	637,119 09	1,987,409 26	1,200,696 06	11,071,528 62
Culbute lock and dam	382,391 46	60,923 37	11,507 48	7,036 15	461,858 46
Lachine	14,132,684 80	1,736,211 86	3,179,426 82	2,728,353 23	21,776,676 71
Lake St. Francis	75,906 71	27,028 08	.....	.....	102,934 79
Lake St. Louis	298,176 11	.....	.....	.....	298,176 11
Murray	1,248,946 71	101,457 76	167,547 20	116,479 46	1,634,431 13
Rideau	4,210,274 31	679,479 05	2,000,636 04	2,131,387 48	9,021,776 88
Sault Ste. Marie	4,935,809 42	280,098 04	542,481 87	477,637 19	6,236,026 52
Soulanges	7,904,044 53	260,714 27	696,753 94	802,819 69	9,664,332 43
St. Anne lock	1,170,215 63	95,180 28	134,787 27	162,491 51	1,562,674 69
St. Lawrence River canals—					
North Channel	1,995,142 87				
River Reaches	483,830 20	128,298 11	.....	.....	3,647,166 83
Galops Channel	1,039,895 65				
St. Ours lock	127,228 56	174,028 88	137,649 26	126,586 42	565,493 12
St. Peter's	648,547 14	735,550 22	137,865 80	37,217 56	1,559,180 72
Tay	489,599 23	748 65	.....	.....	490,347 88
Trent	18,654,195 74	1,375,057 91	918,826 03	990,380 09	21,938,459 77
Welland	29,399,405 93	2,688,745 80	5,711,629 90	4,288,512 63	42,088,294 26
Welland Ship	25,340,733 82	.....	.....	.....	25,340,733 82
Williamsburg	1,334,551 80				
Farran's Point	877,090 57				
Galops	6,143,468 11	355,702 84	812,632 52	705,141 29	12,388,467 93
Rapide Plat	2,159,880 80				
Total	136,907,767 60	10,839,581 12	19,152,847 70	16,077,187 12	182,977,383 54
Canals, general	34,966 69	836,262 59	2,468,753 60	683,607 18	4,023,590 06
Grand total	136,942,734 29	11,675,843 71	21,621,601 30	16,760,794 30	187,000,973 60

YEARLY EXPENDITURE on Canals and Revenue received to March 31, 1921.

—	Year ending	Capital	Income	Revenue		Revenue received
				Staff	Repairs	
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Government expenditure prior to Confederation, including Imperial Government expenditure	.....	20,593,866 13	98,378 46	.....	.....	.....
Government expenditure (1868 to 1879 included)	.....	17,004,842 55	515,196 21	1,830,398 92	1,832,998 61	5,079,068 36
Govt. expenditure since	1880	2,123,366 34	.....	195,039 33	147,167 52	341,598 14
" "	1881	2,075,891 65	7,246 69	197,573 62	154,653 63	361,558 17
" "	1882	1,593,174 09	55,025 03	224,572 61	187,399 02	325,231 54
" "	1883	1,763,001 97	62,503 14	269,415 01	178,617 86	361,604 01
" "	1884	1,577,295 42	60,993 99	280,657 29	192,219 38	372,561 69
" "	1885	1,504,621 47	58,298,29	280,226 20	201,708 47	321,289 47
" "	1886	1,333,324 80	31,984 02	282,323 63	198,251 97	328,977 43
" "	1887	1,783,698 16	65,983 06	285,172 62	198,888 84	321,784 88
" "	1888	1,033,118 34	120,561 59	292,458 76	201,928 93	317,902 04
" "	1889	972,918 43	162,015 49	301,040 23	240,261 36	333,188 90
" "	1890	1,026,364 24	146,853 54	290,516 63	176,089 00	354,816 92
" "	1891	1,318,092 15	165,843 87	294,562 12	204,768 45	349,431 90
" "	1892	1,437,149 30	194,129 61	293,115 58	231,089 54	324,475 24
" "	1893	2,069,573 30	196,185 84	291,048 97	204,759 39	357,089 87
" "	1894	3,027,164 19	110,512 07	294,446 34	179,630 13	387,788 97
" "	1895	2,452,273 65	216,057 58	281,477 04	164,033 71	339,890 49
" "	1896	2,258,778 97	85,820 49	292,121 05	209,321 60	339,538 72
" "	1897	2,348,636 91	101,205 74	287,970 36	178,385 47	384,780 54
" "	1898	3,207,249 79	82,400 55	280,872 44	203,478 86	407,652 82
" "	1899	3,899,877 31	82,205 60	280,628 57	202,312 36	369,044 33
" "	1900	2,639,564 93	120,653 93	292,609 24	227,626 97	322,642 81
" "	1901	2,360,569 89	135,500 57	314,095 04	262,876 07	315,425 68
" "	1902	2,114,689 88	213,044 91	317,838 61	263,768 27	300,413 66
" "	1903	1,823,273 61	275,103 58	390,281 82	294,113 92	230,213 19
" "	1904	1,880,787 20	298,678 23	381,016 82	350,278 54	†79,536 58
" "	1905	2,071,593 72	352,855 43	431,499 60	401,742 79	78,009 25
" "	1906	1,552,121 21	310,716 70	447,962 92	375,889 60	108,067 71
" "	1907	887,838 61	254,423 18	329,629 63	287,231 03	105,003 11
" "	1908	1,708,156 37	483,250 11	473,638 95	411,660 53	144,882 16
" "	1909	1,868,834 45	699,304 73	475,515 04	433,958 10	199,501 25
" "	1910	1,650,706 64	459,835 62	515,585 16	491,793 02	193,384 23
" "	1911	2,349,474 49	385,534 55	511,305 94	471,530 32	221,138 46
" "	1912	2,554,938 91	384,860 73	585,899 54	555,709 95	264,114 48
" "	1913	2,255,448 21	292,960 26	605,248 57	535,135 66	307,567 69
" "	1914	2,824,536 79	351,397 24	642,844 68	574,038 68	380,188 08
" "	1915	5,490,796 03	405,806 32	675,170 67	562,599 27	427,763 16
" "	1916	6,142,148 96	348,174 41	697,532 44	529,565 23	446,722 26
" "	1917	4,304,589 09	372,102 96	700,022 11	486,167 67	461,423 14
" "	1918	1,781,957 07	90,255 66	743,857 09	540,331 49	414,868 21
" "	1919	2,211,935 48	137,604 37	733,090 71	698,878 14	387,654 90
" "	1920	4,579,565 22	743,877 26	745,986 58	713,334 83	442,193 02
" "	1921	5,449,961 68	1,104,239 51	815,979 22	920,992 94	366,010 69
Total*	.....	136,907,767 60	10,839,581 12	19,152,847 70	16,077,187 12	18,275,998 15

*This does not include expenditure which has been charged to Miscellaneous Canals Expenditure but only the amount expended on specific canals.

†Canal tolls abolished this year.

STATEMENT of Canals, Revenue for year ending March 31, 1921.

Divisions	Dues	Rents	Total
Welland Canal—	$ cts.	$ cts.	$ cts.
Port Colborne	204 89	12,581 60	12,786 49
" Elevator	25,078 83	.....	25,078 83
Port Dalhousie	387 90	103,732 25	104,120 15
Total	25,671 62	116,313 85	141,985 47
Welland Ship Canal	.....	5,858 75	5,858 75
St. Lawrence Canals—			
Coteau Landing, Beauharnois canal	.....	13,393 15	13,393 15
" Soulanges canal	8 00	3,514 49	3,522 49
Cornwall	1,299 14	22,478 50	23,777 64
Cardinal, Williamsburg canal	25 00	2,777 10	2,802 10
Lachine Canal, Montreal	15,842 66	144,750 91	160,593 57
" Lachine	813 34	88 00	901 34
Total	17,988 14	187,002 15	204,990 29
Chambly Canal—			
Chambly	.....	600 00	600 00
St. Johns	8 00	44 00	52 00
St. Ours	.....	55 00	55 00
Total	8 00	699 00	707 00
Ottawa River Canals—			
Carillon and Grenville canals	.....	48 00	48 00
" Grenville	.....	11 00	11 00
" Carillon	.....	484 00	484 00
Ste. Anne's lock	92 00	125 00	217 00
Chats Falls canal	.....	2 00	2 00
Total	92 00	670 00	762 00
Rideau Canal	.....	483 00	483 00
Ottawa	150 00	5,785 73	5,935 73
Kingston Mills	10 00	528 50	538 50
Smiths Falls	55 00	163 62	218 62
Total	215 00	6,960 85	7,175 85
St. Peter's canal	.....	5 00	5 00
Murray canal	.....	248 00	248 00
Trent canal	139 50	4,022 83	4,162 33
Sault Ste. Marie canal	.....	116 00	116 00
Grand total	44,114 26	321,896 43	366,010 69
Net amount deposited to credit of Receiver General	.....	.....	366,010 69

STATEMENT of Hydraulic and Other Rents, Showing Rent Accrued, Paid and Balances due March 31, 1921.

Balance due April 1, 1920.	Hydraulic and other rents accrued.	Lock House Rents.	Totals.	Canals.	Abatement for overcharges.	Deposited to the credit of the the Receiver General.		Balance due March 31, 1921	Totals.
						Lock House Rents.	Hydraulic Rents, etc.		
$ cts.	$ cts.	$ cts.	$ cts.		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
66,201 61	121,541 50	.....	187,743 11	Welland	5,523 50	.....	116,313 85	65,905 76	187,743 11
741 00	5,577 75	.....	6,318 75	Welland Ship	44 00	.....	5,858 75	416 00	6,318 75
6,348 67	2,472 10	216 00	9,036 77	Williamsburg	3,157 67	198 00	2,579 10	3,102 00	9,036 77
1,107 50	22,553 50	.....	23,661 00	Cornwall	1,192 50	.....	22,468 50	.....	23,661 00
5,767 09	14,816 15	.....	20,583 24	Beauharnois	431 25	.....	13,393 15	6,758 84	20,583 24
31,781 85	146,660 50	204 00	178,646 35	Lachine	20,930 56	187 00	141,517 70	13,011 09	178,646 35
851 84	132 00	651 00	1,634 84	Chambly	30 84	599 00	85 00	920 00	1,634 84
9,380 53	7,881 88	1,908 00	19,170 41	Rideau	2,738 41	1,788 00	5,172 85	9,471 15	19,170 41
57,323 44	167,606 84	1,620 70	226,550 98	Trent	316 49	1,480 50	2,542 33	222,211 66	226,550 98
50 00	116 00	.....	166 00	Sault Ste. Marie	50 00	.....	116 00	.....	166 00
21,380 08	647 00	192 00	22,219 08	Carillon and Grenville	5 83	176 00	367 00	21,670 25	22,219 08
.....	3,286 49	276 00	3,562 49	Soulanges	.....	253 00	3,261 49	48 00	3,562 49
4 00	33 00	120 00	157 00	St. Annes Lock	1 00	15 00	35 00	16 00	157 00
1 00	1 00	.....	2 00	Chat Falls	.....	.....	2 00	.....	2 00
.....	7 00	.....	7 00	St. Peters	.....	.....	5 00	2 00	7 00
10 00	13 00	240 00	263 00	Murray	.....	235 00	23 00	5 00	263 00
200,948 61	493,345 71	5,427 70	699,722 02	.....	34,422 05	5,021 50	316,740 72	343,537 75	699,722 02

Welland Ship Canal.—Amounts Expended on Construction.

——	Year ending.	Capital.
		$ cts.
Government expenditure	1914	994,257 60
" "	1915	4,074,200 69
" "	1916	4,892,105 15
" "	1917	3,513,769 82
" "	1918	1,235,046 59
" "	1919	1,823,875 96
" "	1920	3,499,963 35
" "	1921	5,070,297 57
Total	.....	25,103,516 73

Expenditure as above		$25,103,516 73
To which add the preliminary expenditure for surveys, borings, etc., charged to Welland Canal capital as follows:—		
1905-06	$ 13,231 97	
1906-07	10,825 27	
1907-08	8,300 34	
1908-09	19,993 37	
1909-10	9,979 91	
1910-11	21,229 35	
1911-12	23,138 60	
1912-13	112,890 92	
1915-16	17,627 36	
		237,217 09
Total cost of Welland Ship Canal to March 31, 1921		$25,340,733 82

Hudson Bay Railway.—Amounts Expended on Construction.

——		Year ending.	Capital.
			$ cts.
Government expenditure		1909	92,427 83
" "		1910	53,042 63
" "		1911	184,149 81
" "		1912	159,632 00
" "		1913	1,099,063 15
" "		1914	4,498,717 25
" "		1915	4,773,743 99
" "		1916	4,889,131 77
" "		1917	2,604,279 94
" "		1918	1,879,699 00
" "	$ 17,671 02	1919	562,557 80
Less proceeds of sale of railway materials to Can. National Railways	253,279 50	1920	*235,608 48*
Government expenditure		1921	30,036 19
Total		.....	20,590,872 88
Less proceeds sale of S.S. *Sheba*		.....	151,099 90
Total to March 31, 1921		.....	$20,439,772 98

QUEBEC BRIDGE.—Amounts Expended on Construction.

——	Year ending.	Capital.	Income.
		$ cts.	$ cts.
Government expenditure	1909	.....	422,867 12
" "	1910	.....	111,788 02
" "	1911	227,563 40	.....
" "	1912	603,293 07	.....
" "	1913	1,512,825 96	.....
" "	1914	2,604,105 61	.....
" "	1915	2,816,305 10	.....
" "	1916	2,746,813 70	.....
" "	1917	2,733,677 00	.....
" "	1918	931,278 01	.....
" "	1919	656,761 79	.....
" "	1920	*880 65*	.....
" "	1921	.....	24,555 50
		14,831,742 99	559,210 64
Less amount received from Phoenix Bridge Co	.....	.....	100,000 00
		14,831,742 99	459,210 64

Capital expenditure as above		$14,831,742 99
In this expenditure a total of $91,188.10 has been credited, being received for sale of scrap and used material from the collapsed bridge.		
Add amounts paid by the Finance Department no included above:—		
Amount guaranteed by Act of 1903, Chap. 54	6,424,781 00	
Amount paid to the province of Quebec	250,000 00	
Amount paid to the city of Quebec	300,000 00	
Amount paid to Emile Tanguay, as per Supreme Court Award	485 20	6,975,266 20
		21,807,009 19
Less amount received from the Phoenix Bridge Co		100,000 00
Agrees with Public Accounts Balance Sheet, 1919		21,707,009 19
To which add the expenditure under Income, 1909, 1910 and 1921	559,210 64	
Add also amount paid for subsidies in 1901, 1902 and 1903	374,353 33	
		933,563 97
Total expenditure to date of March 31, 1921		22,640,573 16

EXPENDITURE on the Canadian Government Railways to March 31, 1921.

CAPITAL ACCOUNT.

Railways.	Previous Years.	Year ending March 31, 1921.	Total.
	$ cts.	$ cts.	$ cts.
Intercolonial Railway System as follows:—			
Canada Eastern Ry	819,000 00	.....	819,000 00
Cape Breton Ry	3,860,679 14	103,753 42	3,964,432 56
Drummond County Ry	1,464,000 00	.....	1,464,000 00
Eastern Extension Ry	1,324,042 81	.....	1,324,042 81
Montreal and European Ry	333,942 72	.....	333,942 72
Oxford and New Glasgow Ry	1,949,063 21	.....	1,949,063 21
Intercolonial Ry	131,240,981 19	1,681,131 16	132,922,112 35
Total	140,991,709 07	1,784,884 58	142,776,593 65
New Brunswick and Prince Edward Island Ry	529,381 32	88,933 54	618,314 86
Prince Edward Island Ry	12,749,112 00	56,924 27	12,806,036 27
International Railway of New Brunswick	2,858,394 69	37,959 74	2,896,354 43
National Transcontinental Ry	166,698,645 64	1,113,921 91	167,812,567 55
Moncton and Buctouche Ry	100,031 53	49,584 22	149,615 75
Salisbury and Albert Ry	127,782 71	171,996 80	299,779 51
St. Martins Railway	124,949 23	114,833 94	239,783 17
Elgin and Havelock Ry	71,440 22	46,763 93	118,204 15
York and Carleton Ry	21,208 94	838 91	22,047 85
Quebec and Saguenay Ry	7,374,508 74	333,816 50	7,708,325 24
Caraquet and Gulf Shore Ry	.....	229,600 00	229,600 00
Lotbinière and Megantic Ry	.....	346,715 00	346,715 00
Hudson Bay Railway	20,560,836 69	*121,063 71*	20,439,772 98
Canadian Northern Ry	9,999,999 90	.....	9,999,999 90
Annapolis and Digby Ry	660,683 09	.....	660,683 09
*a*European and North American Ry	88,363 18	.....	88,363 18
*a*Nova Scotia Railway	208,509 72	.....	208,509 72
*c*Carleton Branch Ry	48,410 48	.....	48,410 48
Canadian Govt. Rys. Rolling Stock	38,748,236 94	840,825 31	39,589,062 25
Canadian Pacific Ry	62,789,776 09	.....	62,789,776 09
Yukon Territory Works, Stikine Teslin Railway	283,323 55	.....	283,323 55
Governor General's Cars	71,538 82	.....	71,538 82
Miscellaneous expenditure	18,345 00	.....	18,345 00
Total	465,125,187 55	5,096,534 94	470,221,722 49
*b*Quebec Bridge	14,831,742 99	.....	14,831,174 99
	479,956,930 54	5,096,534 94	485,053,465 48

*a*Amount paid on this line, between 1868 and 1873, inclusive, was transferred to Consolidated Fund.
*b*See Special Statement.
*c*This Railway, which cost $88,410.48, was sold in 1893 to the City of St. John, N.B., for $40,000. (Vict. Cap. 6).

EXPENDITURE on the Canadian Government Railways to March 31, 1921.

INCOME ACCOUNT.

Railways.	Previous years.	1920.	Total.
	$ cts.	$ cts.	$ cts.
Annapolis and Digby Ry	8,381 82	.....	8,381 82
Intercolonial Ry	280,000 00	.....	280,000 00
Miscellaneous expenditure	4,817,737 56	589,383 58	5,407,121 14
Total	5,106,119 38	589,383 58	5,695,502 96
Quebec Bridge	434,655 14	24,555 50	459,210 64
Total	5,540,774 52	613,939 08	6,154,713 60

EXPENDITURE on the Canadian Government Railways to December 31, 1920.

REVENUE ACCOUNT—WORKING EXPENSES.

Railways.	Previous Years.	1920.	Total.
	$ cts.	$ cts.	$ cts.
*Intercolonial Railway	313,759,144 89	26,708,187 87	340,467,332 76
Prince Edward Island Ry	17,253,056 00	1,329,349 19	18,582,405 19
International Ry. of New Brunswick	2,005,026 56	.....	2,005,026 56
Moncton and Buctouche Ry	185,152 76	76,312 92	261,465 68
Salisbury and Albert Ry	249,370 83	126,934 16	376,304 99
St. Martins Ry	118,414 33	62,714 39	181,128 72
York and Carleton Ry	52,165 04	22,646 06	74,811 10
Elgin and Havelock Ry	112,305 12	53,992 81	166,297 93
St. John and Quebec Ry	935,023 52	444,116 11	1,379,139 63
National Transcontinental Ry	50,872,275 39	14,579,155 76	65,451,431 15
Quebec and Saguenay Ry	.....	44,598 93	44,598 93
Caraquet and Gulf Shore Ry	.....	106,121 41	106,121 41
Lotbinière and Megantic Ry	.....	43,171 86	43,171 86
Cape Breton Ry	.....	24,432 31	24,432 31
Hudson Bay Ry	.....	149,237 32	149,237 32
Canadian Pacific Ry	318,216 30	.....	318,216 30
Eastern Extension Ry	538,094 06	.....	538,094 06
Miscellaneous expenditure	134,789 97	2,000 00	136,789 97
Total	386,533,034 77	43,772,971 10	430,306,005 87
‡Intercolonial Railway—Improvement and Betterments	2,586,230 21	.....	2,586,230 21
Total	389,119,264 98	43,772,971 10	432,892,236 08

*Including expenditure on the Baie des Chaleurs Railway in 1897, amounting to $18,679.97.

‡This charge to Working Expenses was credited to Rolling Stock account for the purchase of rolling stock out of the earnings of the railway.

REVENUE Received by the Canadian Government Railways to December 31, 1920

Railways	Previous Years	1920–21	Total
	$ cts.	$ cts.	$ cts.
Intercolonial Railway	301,487,042 72	23,656,630 73	325,143,673 45
New Brunswick and Prince Edward Island Railway	114,170 90	†	114,170 90
Prince Edward Island Railway	11,497,659 61	750,973 63	12,248,633 24
International Railway	806,942 71	.....	806,942 71
Moncton and Buctouche Railway	82,950 74	47,251 95	130,202 69
Salisbury and Albert Railway	104,021 16	59,187 46	163,208 62
St. Martin's Railway	34,390 30	22,070 77	56,461 07
York and Carleton Railway	16,065 50	5,687 38	21,752 88
Elgin and Havelock Railway	35,835 90	14,776 51	50,612 41
St. John and Quebec Railway	491,800 60	.....	491,800 60
National Transcontinental Railway	39,553,480 22	11,853,128 70	51,406,608 92
Lotbinière and Megantic Railway	.....	22,001 27	22,001 27
Caraquet and Gulf Shore Railway	.....	72,725 29	72,725 29
Cape Breton Railway	.....	9,655 66	9,655 66
Quebec and Saguenay Railway	.....	30,890 99	30,890 99
Hudson Bay Railway	.....	97,652 15	97,652 15
Canadian Pacific Railway	396,473 75	.....	396,473 75
Eastern Extension Railway	462,465 68	.....	462,465 68
Total	355,083,299 79	36,642,632 49	391,725,932 28

† Revenue included with the Intercolonial Railway.

MISCELLANEOUS Expenditure common to both Railways and Canals, including War appropriation, to March 31, 1921

INCOME ACCOUNT

Expenditure previous to 1918–19	.....	2,585,735 54
Expenditure during 1918–19	.....	2,871,849 71
Expenditure during 1919–20	.....	424,683 75
Expenditure during 1920–21	.....	589,383 58
Total	.....	6,471,652 58

EXPENDITURE common to both Railways and Canals to March 31, 1921

REVENUE ACCOUNT

——	Previous Years	1920–21	Total
	$ cts.	$ cts.	$ cts.
Expenditure	69,711 05	.....	69,711 05

EXPENDITURE common to both Railways and Canals to March 31, 1921

CAPITAL ACCOUNT

——	Previous Years	1920–21	Total
	$ cts.	$ cts.	$ cts.
Expenditure	1,853,207 67	15,543,375 46	17,396,581 13

GOVERNMENT RAILWAYS

Recapitulation of Expenditure and Revenue to March 31, 1921

——	Year	Capital	Revenue		Revenue received
			Improvement and Betterment	Working expenses	
		$ cts.	$ cts.	$ cts.	$ cts.
Expenditure prior to Confederation	.....	13,881,460 65	.....	.....	.....
Since Confederation—					
1868 to 1877 inclusive	.....	33,476,607 70	.....	10,059,936 93	7,270,634 05
" "	1878	2,643,741 72	.....	2,032,873 05	1,514,846 38
" "	1879	2,507,053 71	.....	2,233,496 34	1,419,955 60
" "	1880	6,109,077 14	.....	1,851,489 26	1,739,137 25
" "	1881	5,577,236 73	.....	2,220,421 39	2,200,486 25
" "	1882	5,175,046 61	.....	2,310,638 54	2,237,583 39
" "	1883	11,707,619 02	.....	2,636,551 70	2,541,205 41
" "	1884	14,013,074 89	.....	2,613,508 87	2,551,937 97
" "	1885	11,224,244 54	.....	2,749,710 53	2,624,243 07
" "	1886	4,443,220 17	.....	2,819,973 50	2,629,336 35
" "	1887	1,846,887 18	.....	3,152,650 40	2,840,747 88
" "	1888	1,765,582 11	.....	3,621,076 62	3,166,253 22
" "	1889	2,709,857 37	.....	3,513,063 67	3,167,542 67
" "	1890	2,392,767 99	.....	3,846,044 42	3,203,874 11
" "	1891	1,184,317 34	.....	3,949,263 73	3,181,888 56
" "	1892	417,425 73	.....	3,748,597 77	3,136,393 51
" "	1893	712,917 44	.....	3,288,629 62	3,262,505 62
" "	1894	585,749 01	.....	3,226,208 13	3,179,019 57
" "	1895	376,814 83	.....	3,197,846 17	3,129,450 37
" "	1896	324,774 72	.....	3,254,442 64	3,140,678 47
" "	1897	204,624 31	.....	3,195,959 58	3,060,074 38
" "	1898	270,990 85	.....	3,507,248 88	3,313,847 10
" "	1899	1,112,348 47	.....	3,696,612 31	3,940,570 11
" "	1900	3,309,130 42	.....	4,665,228 06	4,774,161 87
" "	1901	3,922,989 37	.....	5,739,051 54	5,213,381 24
" "	1902	5,386,611 24	.....	5,861,099 54	5,918,990 43
" "	1903	3,089,680 86	.....	6,474,134 20	6,584,598 77
" "	1904	2,619,059 86	.....	7,599,958 57	6,627,255 51
" "	1905	6,125,481 79	.....	8,906,154 35	7,050,892 11
" "	1906	6,102,565 74	.....	7,893,653 49	7,950,552 97
" "	1907	7,174,370 17	.....	6,328,745 65	6,509,186 49
" "	1908	23,684,005 25	.....	9,595,295 43	9,534,569 04
" "	1909	29,414,227 34	.....	9,764,586 51	8,894,420 42
" "	1910	21,505,975 91	.....	9,095,903 96	9,647,963 71
" "	1911	24,532,466 18	.....	10,037,878 77	10,249,394 38
" "	1912	23,108,805 52	.....	11,074,852 80	11,034,165 83
" "	1913	17,375,968 10	.....	12,499,925 65	12,442,203 46
" "	1914	21,628,095 15	.....	13,559,225 45	13,394,317 37
" "	1915	21,865,663 92	.....	12,474,453 85	12,149,357 32
" "	1916	21,155,255 19	1,515,895 57	17,891,484 65	18,427,908 65
" "	1917	12,003,649 70	1,070,334 64	24,725,571 90	23,539,758 61
" "	1918	34,699,416 96	.....	33,400,460 45	27,240,956 87
" "	1919	40,193,180 64	.....	43,889,626 07	38,013,725 69
" "	1920	11,593,148 00	.....	48,194,709 86	41,402,061 36
" "	1921	5,096,534 94	.....	43,770,971 10	36,814,349 70
Total	.....	471,466,675 63	2,586,230 21	430,169,215 90	391,866,392 09

Total amount of capital expenditure	$ 471,466,675 63
Less amount received from the city of St. John, N.B., as purchase price of the Carleton Branch Railway	40,000 00
*Net amount of capital expenditure	$ 471,426,675 63

*Cost of Quebec Bridge, not included nor $16,000 miscellaneous expenditure in 1914.

TOTAL EXPENIDTURE AND REVENUE OF THE Department of Railways and Canals prior to and since Confederation to March 31, 1921

	$ cts.	$ cts.
GRAND TOTAL EXPENDITURE	.....	1,210,358,992 83
Expenditure on railways	907,737,649 75	
" Quebec bridge	15,290,953 63	
" railway subsidies	76,391,471 09	
" miscellaneous	23,937,944 76	
" canals	187,000,973 60	
Total expenditure	.....	1,210,358,992 83
CLASSIFICATION OF EXPENDITURE IN GENERAL—		
Capital account	638,320,927 66	
Revenue account	471,344,342 73	
Income account	24,302,251 35	
Consolidated Fund—Railway subsidies	76,391,471 09	
Total expenditure	.....	1,210,358,992 83
CLASSIFICATION OF EXPENDITURE IN DETAIL—		
Railways—		
Capital	469,149,869 25	
Income	5,695,544 42	
Revenue	432,892,236 08	
		907,737,649 75
Quebec Bridge—		
Capital	14,831,742 99	
Income	459,210 64	
		15,290,953 63
Railway subsidies	.....	76,391,471 09
Total expenditure on railways $999,420,074 47		
Canals—		
Capital	136,942,734 29	
Income	11,675,843 71	
Revenue—Staff	21,621,601 30	
Revenue—Repairs	16,760,794 30	
		187,000,973 60
Miscellaneous expenditure—		
Capital	17,396,581 13	
Income	6,471,652 58	
Revenue	69,711 05	
		23,937,944 76
Grand total expenditure	.....	1,210,358,992 83
REVENUE RECEIVED		
GRAND TOTAL OF REVENUE RECEIVED from July 1, 1867, to March 31, 1921.		
Railways	391,866,392 09	
Canals	18,275,998 15	
Grand total	.....	410,142,390 24

II.—STATEMENT showing Subsidies paid to March 31, 1921.

Subsidies Voted. Authority.	Subsidies Voted. Amount.	Number.	Railways.	July 1, 1883, to March 31, 1917.	1917-18.	1918-19.	1919-20.	Total to March 31, 1920.
	$ cts.			$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
47 Vic., chap. 8 52 " 3	51,200 00	1	Albert Southern Railway, N.B.	50,460 00	.....	.....	.....	50,460 00
3-4 Geo. V, chap. 46	—	2	Alberta Central Railway, Alta.	404,480 00	.....	.....	.....	404,480 00
62-3 Vic., chap. 7 63-4 " 8 1 Ed. VII, chap. 7	—	3	Algoma Central and Hudson Bay Ry., Ont.	2,048,704 00	.....	.....	.....	2,048,704 00
9-10 " 51	—	4	Algoma Eastern Ry. Co., formerly Manitoulin and North Shore Ry. Co., Ontario	547,648 00	.....	.....	.....	547,648 00
1 " 7	—	5	Atlantic and Lake Superior Ry., Quebec	a163,418 19	.....	.....	.....	a163,418 19
37 Vic., chap. 14	186,500 annually for 20 years...	6	Atlantic and Northwestern Railway	3,732,000 00	.....	.....	.....	3,732,000 00
6 Ed. VII, chap. 43 9-10 " 51	—	7	Atlantic, Quebec and Western Ry. Co., Quebec	902,800 00	.....	.....	.....	902,800 00
46 Vic., chap. 25 47 " 8 52 " 3	320,000 00 300,000 00	8	Baie des Chaleurs Railway, Quebec	620,000 00	.....	.....	.....	620,000 00
—	—	9	Bay of Quinte Railway, Ontario, now (1918) Canadian Northern Ry.	141,722 45	.....	.....	.....	141,722 45
50-1 Vic., chap. 27 56 " 4	62,400 00	10	Beauharnois Junction Railway, Quebec	62,400 00	.....	.....	.....	62,400 00
48-9 " 54 49 " 19	22,400 00	11	Belleville and North Hastings Railway, Ontario	21,888 00	.....	.....	.....	21,888 00
50-1 " 24 51-8 " 4	57,600 00	12	Brantford, Waterloo and Lake Erie Ry., Ontario	57,600 00	.....	.....	.....	57,600 00
48-9 " 59 53 " 2 54-5 " 8 57-8 " 4	128,000 00 64,000 00	13	Brockville, Westport and Sault Ste. Marie Railway, Ontario, now (1918) Canadian Northern Ry.	140,800 00	.....	.....	.....	140,800 00
—	—	15	Bruce Mines and Algoma Railway, Ontario	53,920 00	.....	.....	.....	53,920 00
49 Vic., chap. 10 50-1 " 24 48-9 " 59 49 " 10 50-1 " 24 47 " 8 48-9 " 59 49 " 10	96,000 00 6,400 00 96,000 00 38,400 00 180,000 00 128,000 00 19,200 00 32,000 00	14	Buctouche and Moncton Railway, New Brunswick	101,600 00	.....	.....	.....	101,600 00
		16	Canada Atlantic Railway, Ontario	282,355 20	.....	.....	.....	282,355 20

App. Act. 2, 1918	175,000 00	16½	Canada Central Ry., Alberta	.....	.....	175,000 00	.....	175,000 00
48-9 " 59	24,439 84	17	Canada Eastern Ry., formerly Northern and Western Ry., New Brunswick, including also Chatham Branch Ry	374,839 84	.....	.....	.....	374,839 84
51 " 3	140,800 00							
57-8 " 4	35,200 00							
62-3 " 7	—	18	Canada and Gulf Terminal Ry. Co.	210,053 59	.....	.....	.....	210,053 59
47 Vic., chap. 8	32,000 00							
49 " 10	57,600 00							
52 " 3	22,400 00							
53 " 2	48,000 00	19	Canadian Northern Quebec Ry. Co., formerly Great Northern Ry., Quebec	1,265,357 14	.....	.....	.....	1,265,357 14
56 " 2	47,000 00							
57-8 " 4	70,400 00							
7-8 Ed. VII, c. 63	—							
2 Geo. V, chap. 7	—	20	Canadian Northern Alberta Ry. Co., Alberta	3,094,104 00	.....	25,896 00	.....	3,120,000 00
3-4 " 10								
6-7 Ed. VII, c. 40	—	21	Canadian Northern Ontario Ry. Co.	14,386,762 51	80,963 37	17,909 32	.....	14,485,635 20
7-8 " 63								
"	—	22	Canadian Northern Ry. Co., Ontario, Manitoba and North West Territories	1,909,132 00	.....	.....	.....	1,909,132 00
2 Geo. V, chap. 9	—	23	Canadian Northern Pacific Ry. Co., British Columbia	5,648,626 37	338,893 63	.....	.....	5,987,520 00
—	—	24	Canadian Northern Quebec Ry., formerly Chateauguay and Northern Ry., Quebec	391,819 75	.....	.....	.....	391,819 75
60-61 Vic., chap. 5	3,630,000 00	25	Canadian Pacific Ry. Co., British Columbia (Crow's Nest Pass)	3,404,720 00	.....	.....	.....	3,404,720 00
—	—	26	Canadian Pacific Ry. Co. (Dyment Branch)	22,336 00	.....	.....	.....	22,336 00
2 Geo. V, chap. 48	—	27	Canadian Pacific Ry., Bridge at Edmonton, Alberta	126,000 00	.....	.....	.....	126,000 00
3-4 " 46	—	28	Canadian Pacific Ry., Gimli to Icelandic River Bridge	80,032 00	.....	.....	.....	80,032 00
—	—	29	Can. Pac. Ry. Co. (Kootenay and Arrowhead Branch)	153,866 00	.....	.....	.....	153,866 00
7-8 Ed. VII, c. 63	—	30	Can. Pac. Ry. Co., Moosejaw northwesterly	485,474 27	.....	.....	.....	485,474 27
2 Geo. V, chap. 48	—	31	Can. Pac. Ry. Co., Bridge at Outlook	115,000 00	.....	.....	.....	115,000 00
—	—	32	Can. Pac. Ry. Co. (Pheasant Hills Branch)	435,200 00	.....	.....	.....	435,200 00
—	—	33	Can. Pac. Ry. Co. (Pipestone Branch)	160,000 00	.....	.....	.....	160,000 00
55-6 Vic., chap. 5	80,000 00	34	Can. Pac. Ry. Co. (Revelstoke to Arrow Lake)	80,000 00	.....	.....	.....	80,000 00
"	—	35	Can. Pac. Ry. Co. (Selkirk Branch)	83,200 00	.....	.....	.....	83,200 00
4 Ed. VII, chap. 34	—	36	Can. Pac. Ry. Co. (Staynerville Branch)	13,024 00	.....	.....	.....	13,024 00
6 " 43	—	37	Can. Pac. Ry. Co. (Teulon to Icelandic River)	112,000 00	.....	.....	.....	112,000 00
—	—	38	Can. Pac. Ry. Co. (Waskada Branch)	64,000 00	.....	.....	.....	64,000 00
7-8 Ed. VII, c. 63	—	39	Can. Pac. Ry., Winnipeg to Gimli, Man	34,522 43	.....	.....	.....	34,522 43
48-9 Vic., chap. 58	1,500,000 00	40	Canadian Pacific Extension	1,500,000 00	.....	.....	.....	1,500 000 00
57-8 " 4	9,000 00	41	Cap de la Magdeleine Railway, Quebec	7,424 00	.....	.....	.....	7,424 00
—	—	42	Cape Breton Extension Railway, Nova Scotia	196,800 00	.....	.....	.....	196,800 00
46 Vic. chap. 25	115,200 00							
47 " 8	76,800 00	43	Caraquet Railway, New Brunswick	224,000 00	.....	.....	.....	224,000 00
50-1 " 24	32,000 00							
47 " 8								
51 " 3								
52 " 3	83,612 00							
53 " 2	142,400 00	44	Central Railway, New Brunswick	226,012 54	.....	.....	.....	226,012 54
57-8 " 4	48,000 00							
61 " 1								
62-3 " 1								
2 Ed. VII, chap. 48	—							

II.—STATEMENT showing Subsidies paid to March 31, 1921.—*Continued*

Subsidies Voted. Authority.	Subsidies Voted. Amount.	Number.	Railways.	July 1, 1883, to March 31, 1917.	1917-18.	1918-19.	1919-20.	Total to March 31, 1920.
	$ cts.			$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
46 Vic., chap. 2	1,525,250 00	45	Central Railway of Canada, Quebec	30,145 02				30,145 02
7 " 8		46	Central Canada Railway	1,525,250 00				1,525,250 00
6-7 Ed. VII, c. 40	—	47	Central Ontario Railway Co., Ontario, now (1918) Canadian Northern Ry	205,862 79				205,862 79
—		48	Coast Line of Nova Scotia (Halifax and Yarmouth Ry.), now (1918) Canadian Northern Ry	160,000 00				160,000 00
6 Ed. VII, chap. 43	—	49	Colchester Coal and Railway Co., Nova Scotia	12,800 00				12,800 00
53 Vic., chap. 2	112,000 00	50	Columbia and Kootenay Ry. Co., British Columbia	88,800 00				88,800 00
50-1 " 24	44,800 00	51	Cornwallis Valley Railway Co., Nova Scotia	44,800 00				44,800 00
52 " 3								
50-1 " 24	44,800 00	52	Cumberland Railway and Coal Co., Nova Scotia	39,850 00				39,850 00
5-6 " 5	89,600 00	53	Dominion Coal Company, Nova Scotia	87,808 00				87,808 00
50-1 " 24	22,400 00	54	Dominion Lime Company, Quebec	15,360 00				15,360 00
50-1 " 24	96,000 00							
52 " 3	14,400 00	55	Drummond County Railway, Quebec	423,936 00				423,936 00
53 " 2	76,800 00							
57-8 " 4	96,000 00							
"	—	56	East Richelieu Valley Railway Co., Quebec (Quebec Montreal and Southern Ry.)	69,952 00				69,952 00
3-4 Geo. V, chap. 46	—	57	Edmonton, Dunvegan and British Columbia Railway, Alberta	125,202 84			213,179 64	338,382 48
6-7 Ed. VII, c. 40	—	58	Edmonton, Yukon and Pacific Railway Co., Alberta, now (1918) Canadian Northern Ry	91,200 00				91,200 00
46 Vic., chap. 25	38,400 00	59	Elgin, Petitcodiac and Havelock Railway, N.B.	82,652 82				82,652 82
51 " 3	44,252 82							
47 " 8	96,000 00	60	Erie and Huron Railway, Ontario	96,000 00				96,000 00
47 " 6	750,000 00	61	Esquimalt and Nanaimo Railway, British Columbia	1,520,560 00				1,520,560 00
2 Geo. V, chap. 48	—	62	Fredericton and Grand Lake Railway Co., New Brunswick	216,576 00				216,576 00
52 Vic., chap. 3	30,000 00	63	Fredericton and St. Mary's Ry. Bridge Co., New Brunswick	30,000 00				30,000 00
60-61 " 4	500,000 00	64	Grand Trunk Ry. Co., Victoria Jubilee Bridge, Quebec	500,000 00				500,000 00
63 " 3								
56 " 2	48,000 00	65	Grand Trunk, Georgian Bay and Lake Erie Ry., Ontario	39,744 00				39,744 00
7-8 Ed. VII, c. 63	—	66	Grand Trunk Pacific Ry. Co.	1,220,480 00				1,220,480 00

49 Vic., chap. 10	32,000 00	67	Great Eastern Railway, Quebec	40,345 00				40,345 00
50-1 " 24	96,000 00							
56 " 2	64,000 00							
53 " 2	37,500 00							
50-1 " 24	51,200 00	68	Guelph Junction Railway, Ontario	46,000 00				46,000 00
57-8 " 4	—	69	Gulf Shore Railway Company, New Brunswick	53,699 20				53,699 20
9-10 Ed. VII, c. 51	—	69½	Ha-Ha-Bay Railway Co., Quebec	231,462 00				231,462 00
—	—	70	Halifax and Southwestern Railway Co., Nova Scotia, now (1918) Canadian Northern Ry	1,238,450 93				1,238,450 93
50-1 Vic., chap. 24	9,600 00	71	Harvey Branch Railway Co., New Brunswick	5,553 57				5,553 57
49 " 10	108,800 00	72	Hereford Railway, Quebec	155,200 00				155,200 00
52 " 3	48,000 00							
46 " 25	156,800 00	73	Internatonal Railway Quebec	156,800 00				156,800 00
53 " 3								
7-8 Ed. VII, c. 63	—	74	International Ry. of New Brunswick, formerly Restigouche and Western Ry. Co	726,080 00				726,080 00
—	—	75	Inverness Railway and Coal Co	368,545 97				368,545 97
47 Vic., chap. 8	160,000 00	76	Irondale, Bancroft and Ottawa Railway, Ontario, now (1918) Canadian Northern Ry	144,000 00				144,000 00
52 " 3								
49 " 10	38,400 00	77	Joggins Railway, Nova Scotia	37,500 00				37,500 00
50-1 " 24	4,000 00							
6 Ed. VII, chap. 43	—	78	Kettle Valley Ry., British Columbia	2,174,190 72				2,174,190 72
46 Vic., chap. 24	89,600 00							
49 " 10	70,000 00							
50-1 " 24	12,800 00	79	Kingston, Napanee and Western Ry., formerly Napanee, Tamworth and Quebec Ry., Ontario, now (1918) Canadian Northern Ry	208,732 80				208,732 80
52 " 3	32,000 00							
55-6 " 5	64,000 00							
47 Vic., chap. 8	48,000 00	80	Kingston and Pembroke Ry., Ontario	48,000 00				48,000 00
6-Ed. VII, chap. 43	—	81	Klondike Mines Railway	197,184 00				197,184 00
2 " 48	—	82	Kootenay Central Ry. Co., British Columbia	1,065,856 00				1,065,856 00
50-1 Vic., chap. 23	118,400 00							
55-6 " 4	224,000 00	83	Lake Erie and Detroit River Railway, Ontario	475,851 00				475,851 00
62-3 " 5	—							
2 Geo. V, chap. 48	—	84	Lake Erie and Northern Ry. Co., Ontario	320,192 00				320,192 00
50-1 Vic., chap. 24	65,022 00	85	Lake Temiscamingue Colonization Ry., Quebec	310,335 95				310,335 95
57-8 " 4	247,940 00							
49 " 10	11,200 00	86	L'Assomption Railway, Quebec	11,200 00				11,200 00
50-1 " 24	217,600 00	87	Laurentian Railway, now (1918) Canadian Northern Ry	217,600 00				217,600 00
48-9 " 50	44,800 00	88	Leamington and St. Clair Ry., Ontario	51,200 00				51,200 00
50-1 " 24	6,400 00							
6-7 Ed. VII, c. 40	—	89	Liverpool and Milton Ry., now (1918) Canadian Northern Ry	32,000 00				32,000 00
45 Vic., chap. 14	—	90	Lindsay, Bobcaygeon, Pontypool Ry. Co., Ontario	185,173 06				185,173 06
—								
55-6 Vic., chap. 5	48,000 00	91	Lotbinière and Megantic Railway Quebec	96,000 00				96,000 00
57-8 " 4	48,000 00							
—	—	92	Maganetawan River Railway Co., Ontario	3,552 00				3,552 00

II.—STATEMENT showing Subsidies paid to March 31, 1921.—*Continued*

Subsidies Voted. Authority.	Subsidies Voted. Amount.	Number.	Railways.	July 1, 1883, to March 31, 1917.	1917-18.	1918-19.	1919-20.	Total to March 31, 1920.
	$ cts.			$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
7-8 Ed. VII, c. 63	—	93	Maritime Coal and Railway Co.	3,200 00	.....	.....	.....	3,200 00
—	—	94	Massawippi Valley Railway Co., Quebec	5,376 00	.....	.....	.....	5,376 00
—	—	95	Midland Railway Co., Nova Scotia	399,060 40	.....	.....	.....	399,060 40
—	—	96	Middleton and Victoria Beach Railway Co., Nova Scotia, now (1918) Canadian Northern Ry.	125,760 00	.....	.....	.....	125,760 00
3 Ed. VII, chap. 57	—	97	Minudie Coal Co., Nova Scotia	18,544 00	.....	.....	.....	18,544 00
56 Vic., chap. 2	67,200 00	98	Montfort Colonization Railway, Quebec, now (1918) Canadian Northern Ry.	167,440 00	.....	.....	.....	167,440 00
57-8 " 4	38,400 00							
60-1 " 4	66,000 00							
48-9 " 59	30,000 00	99	Montreal and Champlain Junction Railway, Quebec	103,600 00	.....	.....	.....	103,600 00
50-1 " 24	64,000 00							
51 " 3	9,600 00							
49 " 10	32,000 00	100	Montreal and Lake Maskinonge Railway, Quebec	41,280 00	.....	.....	.....	41,280 00
53 " 2	10,200 00							
50-1 " 24	192,000 00	101	Montreal and Ottawa Railway, Ontario	192,000 00	.....	.....	.....	192,000 00
53 " 2								
54-5 " 8								
57-8 " 4								
1 Ed. VII, chap. 7	—	102	Montreal and Province Line Railway, Quebec	58,560 00	.....	.....	.....	58,560 00
48-9 " 59	72,000 00	103	Montreal and Sorel Railway, Quebec (Quebec, Montreal and Southern Ry.)	93,757 57	.....	.....	.....	93,757 57
53 " 2	40,000 00							
53 Vic., chap. 2	361,270 00	104	Montreal and Western Railway, Quebec	361,270 00	.....	.....	.....	361,270 00
57-8 " 4	121,600 00	105	Nakusp and Slocan Railway, British Columbia	117,760 00	.....	.....	.....	117,760 00
6 Ed. VII, chap. 43	—	106	Napierville Junction Railway Co., Quebec	175,440 00	.....	.....	.....	173,440 00
—	—	107	New Brunswick Coal and Railway Co., New Brunswick	48,000 00	.....	.....	.....	48,000 00
48-9 Vic., chap. 59	118,400 00	108	New Brunswick and Prince Edward Island Railway	113,440 00	.....	.....	.....	113,440 00
55-6 " 5	40,000 00	109	New Glasgow Iron, Coal and Railway Co., Nova Scotia	39,840 00	.....	.....	.....	39,840 00
Ed. VII, chap. 57	—	110	Nicola, Kamloops and Similkameen Coal Railway Co.	300,800 00	.....	.....	.....	300,800 00
7-8 " 63	—	111	North Shore Railway Co., formerly Beersville Coal and Railway Co.	27,616 00	.....	.....	.....	27,616 00
—	—	112	Northern Colonization Railway Co., Quebec	355,200 00	.....	.....	.....	355,200 00
2 Geo. V, chap. 47	—	113	Northern New Brunswick and Seaboard Railway Co., New Brunswick	108,160 00	.....	.....	.....	108,160 00
3-4 " 46								
46 " 26	660,000 00	114	Northern and Pacific Junction Railway, Ontario	1,320,000 00	.....	.....	.....	1,320,000 00
53 " 2	660,000 00							
55-6 " 5	240,000 00	115	Nova Scotia Central Railway Co., Nova Scotia, now (1918) Canadian Northern Ry.	235,200 00	.....	.....	.....	235,200 00
61 "								

56 " 2	32,000 00	116	Ontario, Belmont and Northern Ry. Co., Ontario (Marmora Ry. & Mining Co.) now (1918) Canadian Northern Ry.	30,720 00					30,720 00
53 Geo. V, chap. 2 3 Ed. VII, chap. 2	99,200 00 —	117	Orford Mountain Railway Company, Quebec	202,926 50					202,926 50
56 " 2	22,400 00	118	Oshawa Railway and Navigation Co., Ontario	22,400 00					22,400 00
55-6 " 5	—	119	Ottawa, Arnprior and Parry Sound Ry., Ontario	779,712 00					779,712 00
—	—	120	Ottawa and New York Railway Company, Ontario	262,384 00					262,384 00
52 Vic., chap. 3 57-8 " 6 60-1 " 4	320,000 00 64,000 00 —	121	Ottawa, Northern and Western Railway, Quebec, formerly Ottawa and Gatineau Valley Railway	414,931 20					414,931 20
52 " 3 57-8 " 4	128,000 00 64,000 00	122	Parry Sound and Colonization Railway, Ontario	152,800 00					152,800 00
—	—	123	Pembroke Southern Railway, Ontario	64,000 00					64,000 00
55-6 Vic., chap. 5	—	124	Phillipsburg Junction Ry. Quarry Co., Quebec	23,712 00					23,712 00
47 " 8 51 " 3 53 " 2	272,000 00 41,000 00 24,000 00	125	Pontiac Pacific Junction Railway, Quebec	193,578 00					193,578 00
60-1 " 4 63-4 " 2	212,500 00	126	Pontiac Pacific and Ottawa & Gatineau Ry. Co. (Interprovincial Bridge over Ottawa River)	212,500 00					212,500 00
52 " 3	19,200 00	127	Pontiac and Renfrew Railway, Ontario	13,600 00					13,600 00
51 " 3 53 " 2	287,200 00	128	Port Arthur, Duluth and Western Ry., Ontario, now (1918) Canadian Northern Ry.	271,200 00					271,200 00
62-3 " 7 63-4 " 8	1,000,000 00	129	Quebec Bridge Co., Quebec	374,353 33					374,353 33
47 " 8 51 " 3 53 " 2 7-8 Ed. VII, c. 63	60,342 00 288,000 00 —	130	Quebec Central Ry., Quebec	585,038 90					585,038 90
45 Vic., chap. 14 46 " 25 48-49 " 59 49 " 10 50-1 " 24 51 " 3 52 " 3 53 " 2 54-5 " 8 57-8 " 4	384,000 00 80,000 00 96,000 00 186,295 00 28,800 00 96,000 00 64,000 00 40,000 00 5,250 00 44,800 00	131	Quebec and Lake St. John Railway, Quebec, now (1918) Canadian Northern Ry.	1,261,463 50					1,261,463 50
52 Vic., chap. 3 56 " 3	96,000 00	132	Quebec, Montmorency and Charlevoix Railway Co., Quebec	96,000 00					96,000 00
—	—	132½	Quebec, Montreal and Southern Railway Co.—*See* South Shore Ry., Quebec.						
7-8 Ed. VII, c. 51	—	133	Quebec and Saguenay Railway Co., Quebec	248,801 28					248,801 28
—	—	134	Schomberg and Aurora Railway Co., Ontario	46,144 00					46,144 00
52 Vic., chap. 3	163,200 00	135	Shuswap and Okanagan Railway, British Columbia	163,200 00					163,200 00
2 Geo. V, chap. 48	—	136	Southampton Railway Co., New Brunswick	81,280 00					81,280 00
50-1 Vic., chap. 24	54,400 00	137	South Norfolk Railway, Ontario	54,400 00					54,400 00

STATEMENT showing Subsidies paid to March 31, 1920—*Concluded*

Subsidies Voted. Authority.	Subsidies Voted. Amount.	%%%%%%%%%%	Railways.	July 1, 1883, to March 31, 1917.	1917-18.	1918-19.	1919-20.	Total to March 31, 1920.
	$ cts.			$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
7-8 Ed., VII, c. 63	—	138	South Shore Railway (Quebec, Montreal and Southern), Quebec	514,811 06	.....	14,630 94	.....	529,142 00
50-1 Vic., chap. 24	138,300 00							
55-6 " 5	108,000 00	139	St. Catharines and Niagara Central Railway, Ontario	38,400 00	.....	.....	.....	38,400 00
57-8 " 4	108,800 00							
52 " 3	375,000 00	140	St. Clair Frontier Tunnel Co., Ontario	375,000 00	.....	.....	.....	375,000 00
2 Geo. V, chap. 48	—	141	St. John and Quebec Railway Co., New Brunswick	598,319 70	285,916 81	121,665 91	.....	1,005,902 42
53 Vic., chap. 2	57,600 00							
55-6 " 5	25,024 00	142	St. Lawrence and Adirondack Railway, Quebec	149,481 60	.....	.....	.....	149,481 60
60-61 " 4								
47 " 8	22,400 00	143	St. Louis and Richibucto Railway, New Brunswick	22,400 00	.....	.....	.....	22,400 00
—	—	144	St. Mary River Railway Co., Northwest Territories	148,094 00	.....	.....	.....	148,094 00
7-8 Ed. VII, c. 63	—	145	St. Mary's and Western Ontario Railway Co., Ontario	67,709 00	.....	.....	.....	67,709 00
7-8 " 63	—	146	St. Maurice Valley Railway Co., Three Rivers to Grand'Mère, Quebec	173,120 00	.....	.....	.....	173,120 00
56 Vic., chap. 2	—	146½	St. Stephen and Milltown Railway, New Brunswick	14,848 00	.....	.....	.....	14,848 00
3-4 Geo. V, chap. 53	—	147	Temiskaming and Northern Ontario Railway Co., Ontario	2,134,080 00	.....	.....	.....	2,134,080 00
45 Vic., chap. 14	240,000 00							
48-9 " 58	258,000 00	148	Temiscouata Railway, New Brunswick and Quebec	645,950 00	.....	.....	.....	645,950 00
51 " 3	100,000 00							
53 " 2	51,200 00							
7-8 Ed. VII, c. 63	—	149	Thessalon and Northern Railway Co., Ontario	6,112 00	.....	.....	.....	6,112 00
52 Vic., chap. 3	54,400 00	150	Thousand Islands Railway, Ontario	29,840 00	.....	.....	.....	29,840 00
63-4 " 8								
55-6 " 5	—							
57-8 " 4	—	151	Tillsonburg, Lake Erie and Pacific Railway, Ontario	150,071 48	.....	.....	.....	150,071 48
60-61 " 4	—							
62-63 " 7	—							
54-5 " 8	89,600 00							
53 " 2	35,200 00	152	Tobique Valley Railway, New Brunswick	134,016 00	.....	.....	.....	134,016 00
55-6 " 5	9,600 00							
59 " 10	16,000 00	153	Toronto, Grey and Bruce Railway, Ontario	14,656 00	.....	.....	.....	14,656 00
56 " 2	102,400 00	154	United Counties Railway Co., Quebec (Quebec, Montreal and Southern)	188,816 00	.....	.....	.....	188,816 00
57-8 " 4	102,400 00							
7-8 Ed. VII, c. 34	—	155	Vancouver and Lulu Island Railway Co., British Columbia	61,760 00	.....	.....	.....	61,760 00
53 Vic., chap. 2	35,200 00	50	Waterloo Junction Railway, Ontario	32,800 00	.....	.....	.....	32,800 00

49	"	10	256,000 00	157	West Ontario Pacific Railway and Ontario and Quebec Railway	256,000 00	.....	.....	.....	256,000 00
53	"	2								
62-3	"	7	—	158	York and Carleton Railway, New Brunswick	32,896 00	.....	.....	.....	32,896 00
					Total	†75,117,415 47	720,404 75	218,805	32,334,845 55	†76,391,471 09

†This amount does not include the subsidy of $25,000,000 to the Canadian Pacific Railway, nor the amount of $660,683.08 expended on the Annapolis and Digby Railway, both of which are included in Capital Account, nor the annual payment of $219,700 to the Provincial Government of Quebec, being interest at the rate of 5 per cent on the sum of $2,394,000 up to 1905, granted by Vic. 47, cap. 8 (1884) and the annual payment of $107,730, being interest at the rate of 4½ per cent since and including 1905 on the said sum of $2,394,000 for the line between Ottawa and Quebec which sum was transferred to the Public Debt as a liability and is dealt with by the Finance Department. *See* Public Accounts, 1889-1920, and page 79, 1898.

ACQUISITION OF GRAND TRUNK AND SUBSIDIARY CONCERNS

In the year 1903, under 3 Edward VII, Chapter 122, the Grand Trunk Pacific Railway Company was incorporated for the purpose of constructing a railway from the city of Moncton, in the province of New Brunswick, to a suitable port on the Pacific coast, with branch lines to lake Superior, Brandon, Regina, Prince Albert and Calgary, as well as a branch line to Dawson in the Yukon Territory.

There was a proviso in the Act that should the Government of Canada undertake the construction of a line of railway from the city of Winnipeg to the city of Moncton, the company should, nevertheless, have power to build branch lines therefrom, and provision was made for entering into an agreement with the Government of Canada, or its authorized commissioners, for the construction of this eastern section of the proposed railway.

Such an agreement was entered into on the 29th of July, 1903, and forms the schedule accompanying chapter 71, 3 Edward VII, "An Act respecting the construction of a National Transcontinental Railway." The preamble of this Act sets forth that "by reason of the growth in population and the rapid development in the productiveness and trade of Canada and especially of the western part thereof, and with a view to the opening up of new territory available for settlement, both in the eastern provinces and in the west, and the affording of transportation facilities for such territory, and for other reasons, the necessity has arisen for the construction of a National Transcontinental railway across the Dominion of Canada from ocean to ocean and wholly within Canadian territory."

The Act in question confirmed the agreement under which the Government undertook to build the Eastern Section between Winnipeg and Moncton, and the Grand Trunk Pacific Railway Company undertook to build the Western Section from Winnipeg to the Pacific under terms and conditions set forth and agreed to. The Eastern Section was to be built to specifications approved by the company, and the Western Section according to plans and specifications approved by the Government.

The Government undertook to guarantee payment of principal and interest of an issue of bonds to be made by the company to finance the construction of the Western Section for a principal amount equal to 75 per cent of the cost of construction, but not in any case to exceed thirteen thousand dollars per mile of the mileage of the Prairie Section, nor thirty thousand dollars per mile of the mileage of the Mountain Section. The Government also undertook to pay the interest on the Mountain Section bonds for the first seven years, and for the succeeding three years the Government also obligated itself to meet the interest should the company be unable to do so, and to capitalize the amount so paid, and grant the company forty years for repayment at 3 per cent per annum.

On the other hand, the Grand Trunk Pacific Company undertook to lease the Eastern Section on completion and operate it for a period of fifty years, the first seven of which should be free of rental, after which rental should be paid at the rate of 3 per cent per annum upon the cost of construction. In addition, the company agreed to equip both divisions of the railway with modern and complete rolling stock suitable and amply sufficient for efficient operation and the handling of all classes of traffic to the satisfaction of the Government, and the first equipment for the completed road was to be of the value of at least twenty million dollars, of which not less than five million dollars worth was to be assigned to the Eastern Division.

SIR WM. WHYTE'S AWARD NOT COMPLIED WITH

The company exercised its privilege to build a branch line connecting Fort William with the Government section at Sioux Lookout, and before the final completion of the Eastern Division the question of operating that section of the line between Sioux Lookout and Winnipeg, rendered necessary by the construction of the Lake Superior Branch, had to be considered. On December 4, 1912, Hon. F. Cochrane, as Minister of Railways, and Mr. E. J. Chamberlain, President of the Grand Trunk Pacific Railway Company, sent a joint telegram to Sir William Whyte, at Winnipeg, requesting him to act as sole arbitrator between the Government and the Grand Trunk Pacific Railway Company, "to fix the rental to be paid for the use of that portion of the Transcontinental line between Winnipeg and Lake Superior Junction, pending completion of the entire line east to Moncton." Sir William Whyte accepted the appointment, and an agreement, dated December 20, 1912, between the Minister of Railways and Canals and the Transcontinental Commissioners on the one hand, and the Grand Trunk Pacific Railway Company on the other, was duly executed formally submitting to Sir William Whyte certain questions for his award.

The agreement above referred to provided "that the parties hereto and the company for itself, its successors and assigns, covenants and agrees with the commissioners to enter into and take a lease of said portion of said Eastern Division and said shops (Transcona) for the rental which the said arbitrator determines to be fair, until such time as the entire Eastern Division is sufficiently completed to permit of operation by way of a ferry at Quebec."

Sir William Whyte decided that a fair rental for the use of that portion of the line in question would be a sum equal to two per cent of the cost of that portion of the said railway, including the shops, and in addition a sum equivalent to ten per per cent of the cost of actual work done at the shops for the operation of the Eastern Division, and a further sum of twelve and a half per cent of the total cost of work done other than for the Eastern Division. Notwithstanding the agreement to do so the company failed to take out a lease in the terms of the award.

LEASE OF TRANSCONTINENTAL PROPOSED BY GOVERNMENT

On January 13, 1915, the Minister of Railways, Hon. F. Cochrane, wrote Mr. E. J. Chamberlain, President of the Grand Trunk Pacific Railway, suggesting that in view of the completion of the National Transcontinental Railway it was desirable that necessary conferences should be had and arrangements made for the drafting and settling of the lease by the Government to the company of the Eastern Division as stipulated by the agreement of July 29, 1903. Mr. Chamberlain replied on January 14, 1915, questioning whether the National Transcontinental Railway was completed, as contemplated by and in accordance with the agreement in question, and asking for a statement of the cost of construction on which the company would be required to pay interest. The statement submitted in response by the minister showed a cash expenditure to December 31, 1914, of $149,479,550, interest costs of $19,581,804; unpaid holdback and progress estimates of $2,000,000 and certain other items for shops and terminals amounting to $3,600,000, or a total of $174,661,354. Mr. Cochrane, however, pointed out that it was only upon the cost of work actually completed that it was proposed to calculate interest.

Later, on March 25, 1915, Mr. Cochrane, as Minister forwarded a form of lease to Mr. Chamberlain in a letter in which he stated,—

> "I find a reference in your correspondence to certain additional works still under construction by the Transcontinental Railway Commission, which additional works it was contemplated by the Commission and by your company

would ultimately be used in connection with the road as now completed. The Government, however, having been advised that the Eastern Division for purposes of operation, has been reported by the chief engineer of the Transcontinental Railway Commission as completed and ready to be leased, is of the opinion that it is in the public interest that such lease be now entered into. You will readily understand that were any other interpretation as to date of completion to be placed upon the agreement with your company, it would mean the postponement for a very considerable length of time of the taking over of this extensive line of railway by the Grand Trunk Pacific, with results that might be incompatible with the public interest. Such a postponement would be to a date very hard, if not impossible to determine, as in the one sense a railway can never be said to be complete. The responsibility for such a postponement I must decline on behalf of the Government to take."

LEASE DECLINED BY GRAND TRUNK PACIFIC

On April 27, 1915, Mr. Chamberlain replied that he could not see his way to ask his directors for authority to execute the lease. Among the reasons for such decision he mentioned the following:—

(1) The great increase in the cost of construction. The original estimate had been $61,415,000. Cost to date had been $149,479,550, not including interest.

(2) The company claimed the Eastern Division was not as yet completed in accordance with the agreement.

(3) The company contended that the road had not been constructed in accordance with the Act of 1904 or on sound business principles. As a result the completion of that portion most useful to the company and to the country and first required, namely, between Winnipeg and Cochrane, was delayed to the great loss and prejudice of the company.

GOVERNMENT FORCED TO OPERATE

Tracklaying between Moncton and Winnipeg had been completed, with the exception of the Quebec bridge, in November, 1913, and a limited service was given during the following year by the Intercolonial on the line between Moncton and Chaudière, a distance of 455·15 miles.

On the company declining to take out a lease, the Transcontinental from the city of Quebec to Winnipeg, a distance of 1,355·95 miles, was taken over for operation as part of the Canadian Government Railway System, and put in operation as such on June 1, 1915. The rolling stock, which the Grand Trunk Pacific was expected to provide, was supplied by the Intercolonial.

LAKE SUPERIOR BRANCH ISOLATED

As the Grand Trunk Pacific had failed to take out a lease of the line between Winnipeg and Superior Junction as agreed, the operation of the Transcontinental by the Government made it necessary to consider the position of the Lake Superior Branch, which thus was shut off from the Grand Trunk Pacific at Winnipeg, and on July 1, 1915, the Lake Superior Branch, 191·75 miles, was taken over by the Canadian Government Railways, having been leased from the Grand Trunk Pacific Railway, under authority of the Act of 1915, chapter 18, for a term of 999 years, at a rental of $600,000 a year, with the option of purchase at any time after March 31, 1936, for $13,333,333.

The operation of the Transcontinental by the Government, and even the leasing of the Grand Trunk Pacific Lake Superior Branch, was regarded by the Government as a temporary situation from which release might eventually be found, as witness clause 8 of the lease of the Lake Superior Branch, which provides that:—

> "If and when the company at any time during the currency of this lease, leases, takes over and operates the Eastern Division of the National Transcontinental Railway in accordance with and as provided by The Transcontinental Railway Acts 'as defined in Schedule "A"' to chapter 98 of the Statutes of Canada, 1905, or if and when a judgment of any court of competent jurisdiction is obtained by the Crown directing the company to so lease the said Eastern Division, this lease shall therefrom at the option of the Crown be forthwith terminated and at an end, and the making of this lease shall not be held to prejudice in any way any claim that the Crown may have against the company for damages by reason of failure to lease the said Eastern Division at an earlier date."

FINANCIAL AID TO GRAND TRUNK PACIFIC

The Grand Trunk Pacific was subsidiary to and its stock wholly owned by the Grand Trunk Company. The Government was approached on December 10, 1915, by Mr. Smithers, to take the Grand Trunk Pacific and branch lines off the hands of the parent company on condition that the Grand Trunk surrendered to the Government the common stock of the Grand Trunk Pacific. At that time, the Government thought the situation could be met by means of loans during the next few years. This was not the first assistance that had been necessary, as the Government had loaned the Grand Trunk Pacific $10,000,000 in 1909 and $15,000,000 in 1913. A further loan of $6,000,000 was made in 1914 on a pledge of bonds. Its securities were further guaranteed by legislation of that year to the extent of $16,000,000. In 1916 a loan of $8,000,000 was authorized and $7,081,783.45 advanced. In 1917 a loan of $7,500,000 was authorized and $5,058,053.72 advanced, and in the spring of 1918 a further loan of $7,500,000 was authorized by Parliament.

NEGOTIATIONS TO ACQUIRE THE GRAND TRUNK AND GRAND TRUNK PACIFIC

By January, 1918, the affairs of both Grand Trunk and Grand Trunk Pacific were such as to make it necessary for the Government to decide whether to continue financial assistance indefinitely or acquire the properties for inclusion in the Canadian National System, which at this time included not only the original Canadian National lines, such as the Intercolonial and branch lines, but the recently acquired Canadian Northern Railway System as well.

Negotiations were conducted at various times during the year on both sides of the Atlantic. Throughout these negotiations Government made it plain that further assistance, to either Grand Trunk or Grand Trunk Pacific, under the then existing conditions, would not be justified. The Grand Trunk management was reminded that the Grand Trunk Pacific had not assumed or attempted to discharge its rental obligations to the Government of Canada with respect to the National Transcontinental Railway, which obligations, while not formally assumed by the Government, had in practice been shouldered by the Dominion. The Government insisted that the obligations of the Grand Trunk Company to the Grand Trunk Pacific could not be ignored, and that the Government could not undertake to assume the indebtedness and to operate the Grand Trunk Pacific and branch lines thereof and to relieve the Grand Trunk Pacific of responsibility therefor while the Grand Trunk Railway,

as a subsidiary of which, and indeed as an extension of which the Grand Trunk Pacific was built, remained in independent hands. The Government overtures (which are printed in Sessional Papers No. 90, 1919) were at this time of the nature of rental over a long period of years, with a provision for purchase, but no agreement could be reached as regards compensation. Meanwhile the Grand Trunk was having difficulty in financing and requested the Government to guarantee a proposed note issue and thus enable the company to meet obligations maturing in the fall of 1918. The Government replied (September 10) that it had not power to guarantee the proposed note issue without authority of Parliament, and it did not consider it practicable to ask Parliament for such authority. The offer already made had been based on the Drayton-Ackworth report, beyond which Council could not go, and if no further offer was received from the Grand Trunk before the end of the month (September, 1918) they would consider negotiations at an end. The reply of the company was to the effect that it had waited as long as seemed prudent and had succeeded in underwriting the note issue at a slightly better price than their last issue.

PROPOSAL BY GRAND TRUNK

There were no further negotiations until February 18, 1919, when President Kelley cabled from London a proposal that the Government should take over the Grand Trunk Pacific and branch lines, repaying to the Grand Trunk all indebtedness, and that the Grand Trunk should enter into a traffic agreement with the Government by which the Grand Trunk should become the eastern connection of the Canadian Government Railways and the Canadian Government Railways should become the western connection of the Grand Trunk, interchanging at North Bay. The proposal involved the operation by the Grand Trunk of the eastern lines of the Canadian Northern Railway, also the spending upon Grand Trunk improvements of the money owing by the Grand Trunk Pacific which the Government should repay to the Grand Trunk. The Government replied briefly that the proposal could not be entertained.

DEFAULT IN RESPECT OF GRAND TRUNK PACIFIC

At this time there remained a balance of approximately $950,000 of the vote of $7,500,000 appropriated by Parliament at the session of 1918. The company wished to use this to pay interest on Grand Trunk Pacific debenture stock, but the Government held that deficit in operation should have priority over all other charges and made the condition that the remittance should be used only for operating obligations. As a result the company notified the Government that it would be unable to meet interest due upon its securities on March 1.

The reply of Sir Thomas White, Minister of Finance and Acting Prime Minister, dated February 28, contained the following significant statement:—

> "I have already informed Mr. Kelley, president of the company, and yourself (Mr. Frank Scott) that it is not the intention of the Government to ask Parliament to provide a further vote for the Grand Trunk Pacific Railway Company while our negotiations with the Grand Trunk Railway Company remain in their present unsatisfactory condition. As I indicated to you, it will be for the Board of Directors of the Grand Trunk Railway Company to determine the question of their responsibility in respect of the interest maturing to-morrow upon securities guaranteed by their company."

Five days later (March 4) the company, without previous intimation or discussion from either Montreal or London, forced the situation by notifying the Government that it would be unable to continue operation of the Grand Trunk Pacific after March 10.

MINISTER OF RAILWAYS APPOINTED RECEIVER OF GRAND TRUNK PACIFIC

The Government determined that there should be no interruption of this very necessary railway service at a time when the country was struggling to recuperate after the shock of war and on March 7, under the War Measures Act, passed an Order in Council appointing the Minister of Railways receiver of the Grand Trunk Pacific Railway System. The Government receivership became effective at 12 midnight of Sunday, March 9, and on the Government now fell the responsibility of operating the entire transcontinental system conceived by the Grand Trunk in 1903-4.

FURTHER PROPOSAL BY GRAND TRUNK

After President Kelley's return from London he submitted (May 28, 1919) a further offer to the Government which challenged the accuracy of the Drayton-Ackworth report (which had formed the basis of the Government's previous offer). In reply, the Government suggested that Sir Henry Drayton, then chairman of the Dominion Railway Board, should be permitted to investigate the question of the alleged inaccuracy and report thereon, when the Government would be in a position to reply to the company's formal offer. Nothing came of this suggestion, but in August, 1919, Sir Alfred Smithers came to Ottawa, and, with Mr. Kelley, personally resumed negotiations with the Government. For the information of the sub-committee of Privy Council appointed to deal with the matter, Mr. Kelley presented the following summary of the various proposals which had already passed:—

"In January, 1918, the Prime Minister cabled to the High Commissioner in London, requesting that the latter ask the chairman of the board of the Grand Trunk Railway to state on what terms the Grand Trunk and Grand Trunk Pacific could be acquired by the Government of Canada, on the basis of an annual sum to be paid by the Government and to be distributed by the Directors, among the holders of the four per cent guaranteed and other stocks.

"The following reply, stating the terms on which the Board were prepared to recommend the sale of the property, was cabled:—

The Government to take over all obligations of the Grand Trunk Company, including the fixed charges and debenture stocks, and to pay an annual sum in addition as from January 1, 1917, of £1,084,000. This sum would pay the dividends on the guaranteed and preference stocks. The Government, in addition, to pay annually one per cent (1%) on the Ordinary Stock from January 1, 1920, a further one per cent (1%) from January 1, 1925, and a final additional one-half per cent (½%) from January 1, 1930.

"This offer was not accepted, and on the 7th March, 1918, the chairman received a message, through the High Commissioner in London, offering the following terms on behalf of the Canadian Government:—

"*First.*—Government will take over Grand Trunk and Grand Trunk Pacific and acquire all their assets.

"*Second.*—Government will relieve the Grand Trunk Company from its liabilities in respect to the Grand Trunk Pacific and from its obligations to operate the National Transcontinental.

"*Third.*—The Government will also assume other liabilities and obligations of both companies.

"*Fourth.*—The Government will make an annual payment to the Grand Trunk Company of $2,500,000 (£500,000) for first three years, $3,000,000 (£600,000) for succeeding five years, and $3,600,000 (£740,000) there-

after. These sums would be distributed by the Grand Trunk management as they may determine among holders of four per cent guaranteed and other stocks.

"*Fifth.*—The acquisition of the assets of the Grand Trunk might be carried out by long-term lease, renewable perpetually with rental corresponding to the annual payments above mentioned.

"*Sixth.*—If the Grand Trunk Company declines to accept the offer above set forth, we are prepared to leave the amount of annual payment to arbitration."

"Negotiations were resumed in London upon the arrival of the Prime Minister and other Ministers in June, 1918, but after various meetings and conversations, it was intimated to the board that no alteration—with the exception of the one to be immediately mentioned—could be made in the Government's original offer without the consent of the full Cabinet at Ottawa.

"The alteration referred to was that the Government offered, in the event of arbitration, to include the guaranteed stock in the fixed charges, leaving only to arbitration what sums should be allowed by the Government to be divided among the shareholders ranking after the guaranteed stock. This offer was contained in a letter from the Hon. Mr. Meighen, dated July 11, 1918, and was not accepted by the board.

"After a meeting between the Prime Minister and two of his colleagues and a committee of the board, prior to the departure of the former from London, the chairman, in a letter dated August 8, 1918, made the following proposition:—

That the Government should pay a net annual sum of £977,000 being the amount of net earnings for the year 1913, the last normal year before the war; and leave to arbitration what further sum the shareholders would be entitled to in respect of the prospective value of the undertaking that must arise from the development of the Dominion: or agreeing to take an annual payment of £1,163,000 without arbitration.

"A communication was received from Sir George Foster, then Acting Premier, on September 30, 1918, virtually declining this offer.

"Mr. Kelley, the president, left Canada for London on January 27, 1919, and on his arrival, after discussion with the board, he was authorized to cable the Acting Premier, Sir. Thomas White, offering to enter into a traffic arrangement with the Canadian Government Railways for points east of North Bay, whereby the Grand Trunk would act as the eastern connection of the Canadian Government lines; and further offering to operate on behalf of the Government, if they so desired, all lines of the Canadian Northern Railway lying east of North Bay. This offer was declined by the Acting Premier.

"After Mr. Kelley's return from London, he submitted a further offer to the Government, as follows:—

'The railway company to lease to the Government all of the properties and assets of the Grand Trunk, for the consideration that the Government will assume all obligations and fixed charges in accordance with previous cables between the chairman and the Prime Minister, and pay to the company amounts as follows:—

For each of years 1918 and 1919	$3,076,868
For the year 1920, sum of	3,380,616
For each of years 1921 to 1924, inclusive, sum of	4,326,615
For the year 1925 and thereafter in perpetuity, annual sum of	5,268,240' "

ACQUISITION OF GRAND TRUNK AUTHORIZED

The conferences between Sir Alfred Smithers, Mr. Kelley, and the members of the Cabinet conducting the negotiations for the Government, continued until early October, when, on the 9th of that month, the proposals were reduced to writing and formed the basis of chapter 17 of the 2nd Session of 1919, "An Act respecting the acquisition by His Majesty of the Grand Trunk Railway System," assented to November 10.

The Bill provided for the sale and purchase of certain stocks, the value of which was to be determined by arbitration. On these stocks the Government agreed to pay a certain dividend and interest provided the voting powers exercisable by the shareholders should cease on the provision of the guarantees. The guarantees were to take effect on the appointment of a committee of management representative of both the company and the Government. The Committee of Management was to be appointed as soon as the agreement between the Government and the company was ratified by a majority of the shareholders.

The Grand Trunk shareholders at a meeting in London, on February 19, 1920, ratified the agreement, but owing to an omission in the list of properties being acquired, as set out in the schedule of chapter 17, 1919, amending and confirmatory legislation was required, and this was provided in chapter 13, of 1920, assented to on May 11. The schedule of this Act contained the agreement in its final form, which was to the following effect:—

"An agreement made the eighth day of March, one thousand nine hundred and twenty, between His Majesty the King, represented by the Minister of Railways and Canals of Canada, acting under the authority of an Order in Council, dated the thirty-first day of December, 1919, hereinafter called the "Government" of the First Part, and the Grand Trunk Railway Company of Canada, herein represented by Sir Alfred Waldron Smithers, M.P., Chairman of the Board of Directors, and Henry Hilton Norman, Secretary of the Company, acting by virtue of a Resolution duly passed at a meeting of the shareholders and debenture stockholders duly called and held at London, England, on the nineteenth day of February, 1920, hereinafter called the "Grand Trunk," of the Second Part.

"Whereas, by an Act of Parliament of Canada, entitled "The Grand Trunk Railway Acquisition Act, 1919," (hereinafter called the said Act), the parties hereto were authorized to enter into an agreement for the acquisition by the Government, on the terms therein stated, of the entire capital stock of the Grand Trunk except the four per cent guaranteed stock of the Grand Trunk amounting to £12,500,000, the latter being in the said Act and hereinafter called the "present guaranteed stock":

"And whereas the issued capital stock of the Grand Trunk (not including the present guaranteed stock) consists of the following:—

First preference stock, five per cent	£ 3,420,000
Second preference stock, five per cent	2,530,000
Third preference stock, four per cent	7,168,055
Ordinary or common stock	23,955,437
	£37,073,492

which are hereinafter together referred to as the "preference and common stock";

"And whereas the present outstanding debenture stocks of the Grand Trunk, consisting of—

Five per cent Grand Trunk debenture stocks	£ 4,270,375
Five per cent Great Western debenture stocks	2,723,080
Four per cent Grand Trunk debenture stocks	24,624,455
Four per cent Northern debenture stocks	308,215
	£31,926 125

hereinafter called the "present debenture stocks," are entitled to certain voting powers at metings of shareholders of the Grand Trunk;

"Witnesseth: that the parties hereto have agreed as follows:—

"1. *Statement of Control.*—The Grand Trunk represents that the companies, properties and interests comprised in the Grand Trunk Railway System are correctly and fully set forth in the First schedule to this agreement, and that it has in such schedule correctly and fully shown how the various companies and their undertakings are controlled by the Grand Trunk, whether by stock ownership and to what extent, and whether by leases, agreements or otherwise, distinguishing in these respects the direct ownership and control by the Grand Trunk from the indirect ownership and control through companies included in the system.

"2. *Sale and Purchase of Certain Stocks.*—The Grand Trunk hereby undertakes and agrees to use its best endeavours to cause the sale and delivery to the Government, and the Government agrees to acquire, in the manner and on the terms hereinafter set forth, the preference and common stock of the Grand Trunk now issued and outstanding to the face value mentioned in the recitals to this agreement.

"3. *Part Consideration.*—Cessation of Voting Powers.—As part of the consideration for such acquisition, the Government agrees to guarantee the payment of—

(*a*) Dividends payable half-yearly, at four per cent per annum, upon the present guaranteed stock;

(*b*) The interest upon the present debenture stocks as and when payable, in accordance with the terms thereof;

these guarantees to take effect upon the date of the appointment of the Committee of Management hereinafter mentioned, The guarantees shall be in the form, or substantially in the form, set forth in the Second and Third schedules, respectively, to this agreement, shall be signed by the Minister of Finance and Receiver General of Canada on behalf of His Majesty the King in the right of the Dominion of Canada, and, forthwith after the appointment of the Committee of Management hereinafter referred to, shall be deposited with the High Commissioner for Canada in London, England, for the benefit and information of all parties concerned.

"Provided that concurrently with the deposit of such guarantees, the voting powers at meetings of shareholders of the Grand Trunk now vested in or exercisable by the holders of the present guaranteed stock and the present debenture stocks, respectively, shall cease and determine absolutely.

"4. *Committee of Management.*—Forthwith after the ratification of this agreement, as provided in the said Act, a Committee of Management of the Grand Trunk System shall be formed, consisting of five persons, two to be

appointed by the Grand Trunk, two by the Government, and the fifth by the four so appointed. The functions of the Managing Committee shall be to insure the operation of the Grand Trunk System (insofar as it is possible to do so) in harmony with the Canadian National Railways, the two systems being treated, in the public interest, as nearly as possible as one system. No contract or agreement shall be made by the Grand Trunk, or by any company comprised in the Grand Trunk System and controlled by the Grand Trunk, other than such as are necessary for the usual and ordinary business of the system, except with the concurrence of the Managing Committee and the approval of the Governor in Council. The Managing Committee may, with the consent of the Governor in Council, borrow from the Government on Grand Trunk notes, or other obligations or securities approved of by the Governor in Council, for the carrying on of the operation or improvement of the Grand Trunk System. The Committee shall continue to act until the preference and common stocks are transferred to or vested in the Government, when it shall be discharged.

"5. *Examination of Books and Properties.*—The books, minutes, reports, documents, and other records, and all the railways and properties of the companies comprised in the Grand Trunk System, shall at all times be accessible and open to inspection and examination by any person or persons named by the Minister of Railways and Canals of Canada, or by the Board of Arbitrators hereinafter mentioned; and all proper aid and assistance shall, on request, be rendered to such person or persons by the Committee of Management and by the officers and employees of the Grand Trunk and its allied companies, including the making and giving of extracts, copies and statements.

"6. *Submission to Arbitration.*—The value, if any, to the holders thereof, of the preference and common stock shall be determined by a Board of three arbitrators, one to be appointed by the Government, one by the Grand Trunk, and the third shall be Sir Walter Cassels, Judge of the Exchequer Court of Canada, who shall be chairman of the board. Should Sir Walter Cassels die or be unable to act, the said parties shall agree upon another third arbitrator who shall be either the then judge of the Exchequer Court of Canada, or one of the judges of the Supreme Court of Canada, and who shall likewise be chairman. Should any vacancy occur in the Board of Arbitrators, other than the third arbitrator, the arbitrator to fill the vacancy shall be appointed in the same way as the arbitrator whose seat has become vacant was appointed.

"7. *Arbitration Proceedings.*—The Board of Arbitrators shall have full power and authority in respect of the control of the arbitration and the proceedings thereof including the administration of oaths and in respect of the admission of evidence. The board shall have power to employ or procure such legal, engineering, actuarial or other assistance and such evidence as it may require. Should the arbitrators require that the evidence of any person be taken de bene esse, or out of Canada, the arbitrators may delegate to any person power to administer oaths, to take such evidence under oath or otherwise, and to transmit it to the arbitrators for use upon the arbitration. The evidence upon the arbitration shall be taken in shorthand and transcribed by competent stenographers appointed by the arbitrators and duly sworn.

"8. *Making of Award and Appeals.*—The award shall be made by the arbitrators, or a majority of them, within nine months from the appointment of the arbitrators, or within such further time as the Governor in Council may approve. The unanimous award of the arbitrators shall be final, but should the award not be unanimous, and should notice of appeal be given

by either party to the other within thirty days after the making of the award, an appeal therefrom, upon any question of law, shall lie to the Supreme Court of Canada and or to the Judicial Committee of the Privy Council, if leave be granted by the said committee.

"9. *Clerical Errors.*—The arbitrators shall have the power to correct in their award any clerical errors or mistakes at any time within two weeks after delivery thereof.

"10. *Undisclosed liabilities.*—Should the Government, within three months after the making of the award, claim that there existed any liabilities of the Grand Trunk, or of any company comprised in the Grand Trunk System, which were not disclosed to the Board of Arbitrators prior to the making of their award, the Government may, within such period of three months, apply to the Board of Arbitrators to amend their award, and the board may thereupon decide whether such liabilities existed and were disclosed to them, whether the amount of their award would or would not have been affected thereby, and the amount of the deduction, if any, to be made in respect thereof; and may amend their award accordingly.

"11. *Limit to the Amount of the Award.*—The value, if any, so determined shall not be greater than an amount on which the annual dividend at four per cent per annum on the aggregate face value of the present guaranteed stock and the new guaranteed stock taken together would be $5,000,000; that is, the value, if any, so determined shall not exceed sixty-four million one hundred and sixty-six thousand six hundred and sixty-six dollars and sixty-six cents ($64,166,666.66). The fixing of this limit shall not be taken by the arbitrators as any admission or indication that the value to be determined is the amount so fixed, or any other amount.

"12. *Issue of new Guaranteed Stock.*—Upon the value of the preference and common stock being finally determined under the provisions of this agreement, the Grand Trunk shall create an issue of non-voting four per cent capital stock—herein called the "new guaranteed stock." The amount thereof shall be the amount of the value, if any, of the preference and common stock, determined as above provided, less such deductions therefrom as are to be made under the terms of this agreement. The Government shall guarantee to the holders of the new guaranteed stock that there shall be paid a dividend thereon at the rate of four per cent per annum, payable half-yearly, from the date of the appointment of the Committee of Management hereinbefore mentioned. The new guaranteed stock shall be distributed among the holders of the preference and common stock, upon the transfer to or vesting in the Government of such stock, in proportions which shall be determined by the arbitrators. The new guaranteed stock shall be deemed and issued as fully paid stock and free from calls and other liabilities. The new guaranteed stock shall be in the form, or substantially in the form, set forth in the Fourth schedule to this agreement, and the guarantee of the Government in respect thereof shall be signed and deposited in the same manner as is provided in this agreement with respect to the guarantee of the present guaranteed stock. A copy of the guarantee in this clause provided for shall be endorsed or printed upon the certificates of new guaranteed stock as from time to time issued.

"13. *Transfer of Preference and Common Stocks.*—The new guaranteed stock shall be issued in exchange for the preference and common stock upon the transfer to or vesting in the Government, or its nominees, of such preference

and common stock as aforementioned. Should any shares or any part of the preference and common stock not be transferred to the Government, the Governor in Council may declare such shares or any such part of the preference and common stock to be the property of the Minister of Finance in trust for His Majesty, and upon the making of such declaration the shares or part thereof not so transferred shall immediately become the property of His Majesty, and proper entries thereof in the stock registers and other books in that behalf shall be made. The amount of the new guaranteed stock to which the holders of any such shares or part thereof so vested in His Majesty would be entitled to under the terms of this agreement shall be issued and delivered to such holders, or their representatives, upon proper application being made therefor to the Government and the surrender or delivery of such shares to the Government or its nominees, or proper evidence of the applicants' right thereto should such certificates be lost or destroyed.

"14. *Redemption of Stocks.*—The present guaranteed stock and the new guaranteed stock, or any part thereof, may be called in or redeemed by the Government or the Grand Trunk, at par, at any time after five years from the date of the appointment of the said Committee of Management, on six months' notice, by advertisement, to the holders thereof.

"15. *Vacating of Offices.*—Upon the preference and common stock being vested in the Government, or its nominees, the Grand Trunk shall cause its Board of Directors, and the Board of Directors of each company comprised in the Grand Trunk System, to resign or vacate their offices, as directors, at such time or times and in such manner as may be requested by the Government, and nominees of the Government shall be duly appointed to the vacancies caused thereby. Should any director of the Grand Trunk, or of any company comprised in the Grand Trunk System, which is within the legislative authority of the Parliament of Canada, neglect to resign or vacate his office in accordance with such request, the Governor in Council may declare the office of any such director to be vacant, on and after a date to be named in such order, and may appoint a director in his stead.

"16. *Varying Obligations.*—After the execution of this agreement, and until the preference and common stock is vested in the Government, the Grand Trunk shall refrain, without the approval of the Governor in Council from varying by by-law, agreement, or in any other manner whatsoever, the rights or liabilities appertaining to the capital stocks or securities of the Grand Trunk, or of any company comprised in the Grand Trunk System, and from increasing, without such approval, except in so far as is necessary in the usual and ordinary conduct of the business of the system, or as may be concurred in by the Committee of Management and by the Governor in Council, the obligations or liabilities of the Grand Trunk or of any company comprised in the Grand Trunk System. The Grand Trunk shall also refrain, without such approval, from declaring any dividends on any of the capital stocks.

"17. *Superannuation and Pension Funds.*—The Grand Trunk Superannuation Fund shall continue in existence and shall continue to be administered as at present, and in accordance with the rules and regulations governing the same. The rules and regulations of the Grand Trunk pension system shall continue to be applicable to employees of the Grand Trunk System until a general pension scheme applicable to all employees of Canadian Government-owned or controlled railways shall be adopted and become effective. The rules and regulations of the Grand Trunk Insurance and Provident Society

shall continue to be applicable unless and until the Government shall adopt and make effective a general insurance scheme applicable to all employees of Canadian Government-owned or controlled railways. In no case shall any acquired rights or vested interests in either the pension system or the Insurance and Provident Society be affected.

"18. *Grand Trunk Pacific.*—The Minister of Railways and Canals, as receiver of the Grand Trunk Pacific Railway System, may entrust to the Committee of Management, hereinbefore provided for, on terms to be approved by the Governor in Council, the exercise of such of his powers as receiver as the Governor in Council may deem requisite, in order that the operation and management of the said Grand Trunk Pacific Railway System may be conducted in harmony with the operation of other railways and properties under the control of the said committee; and upon the transfer to or vesting in the Government of the preference and common stock as herein provided for, the Governor in Council may, on such terms and conditions as may be deemed necessary in the public interest, order the discharge of the receivership of the Grand Trunk Pacific Railway System, and the termination and withdrawal of the proceedings in the Exchequer Court of Canada relating thereto.

"19. *Grand Trunk Pacific Guarantee and Claims.*—For the purpose of the valuation provided in this agreement, the obligations of the Grand Trunk as guarantors of any indebtedness of the Grand Trunk Pacific Railway Company, or of the Grand Trunk Pacific Branch Lines Company, or otherwise, and the claims of the Government of the Dominion of Canada, against either of the above-mentioned companies, or against any company forming part of the Grand Trunk Railway System, shall not be treated as extinguished or affected by anything contained in the said Act.

"20. If the arbitrators consider that the market prices or quotations of the stocks are to be taken into consideration in establishing their value, they shall not take into account the fluctuation, if any, in the market prices or quotations of the said preference and common stock caused by the negotiations between the parties hereto, the passing of the said Act, or the execution of this agreement. This shall not be taken to mean that the market prices or quotations are relevant matter to be inquired into by the arbitrators.

"21. *Costs.*—Each of the parties to this agreement shall pay its own costs of and in connection with the arbitration subsequent to the date of this agreement, including the remuneration of the arbitrator appointed by it. The remuneration of the third arbitrator, of the secretary of the arbitration board, secretarial, clerical, reporting, travelling and other necessary expenses which may be considered as in the common interests of both parties, shall be equally borne by each party. In order to provide the necessary funds to pay its expenses and its share of the common expenses, the directors of the Grand Trunk shall be entitled to create a fund by means of assessments on the present debenture stocks and present guaranteed stock in such proportions as the directors in their discretion may determine, which shall be deducted from any payments on said debenture and present guaranteed stocks as may be necessary.

"Should any difference arise as to what is included in the expression 'common interests of both parties,' as used in this clause, such difference shall be settled by the Board of Arbitrators on the application of either party."

COMMITTEE OF MANAGEMENT APPOINTED

The Committee of Management, whose functions were to co-ordinate as far as possible the operation of the Grand Trunk and Canadian National lines, pending the award of the arbitrators and the transfer of the property, was appointed on May 21, 1920. It consisted of Messrs. Frank Scott and W. D. Robb, representing the Grand Trunk, and Messrs. C. A. Hayes and S. J. Hungerford, representing the Canadian National lines. These four selected Mr. Howard G. Kelley, President of the Grand Trunk, as the fifth member of the committee.

THE BOARD OF ARBITRATION

Sir Walter Cassels, Judge of the Exchequer Court of Canada, was by legislation and agreement, appointed chairman of the proposed Board of Arbitration. The agreement provided (paragraph 8) that the award should be made within nine months from the appointment of the arbitrators, or within such further time as the Governor in Council should approve. The Grand Trunk, by resolution adopted June 18, 1920, appointed Hon. William Howard Taft to the Board, and before July 9, the president of the Grand Trunk informed the Minister of Railways and Canals that Mr. Taft had been appointed arbitrator by the Grand Trunk. The Government thereupon appointed Sir Thomas White arbitrator on July 9. Under the agreement, therefore, the award of the arbitrators was required to be made by April 9, 1921. On the making of the award and the transfer of the stock, it was agreed that the Grand Trunk directors should resign as might be requested by the Government, and that nominees of the Government should be appointed to the vacancies thus caused.

The arbitrators held their organization meeting at Montreal on September 1, when arrangements were made by Government counsel for the opening of the case about November 1. Meanwhile, a physical inspection of the property was undertaken. On November 5, at a further meeting of the arbitrators, Grand Trunk counsel, without previous notice, requested postponement until February 1, 1921, as their case was not ready. Government counsel protested against the delay and on January 13, 1921, at a meeting held at Ottawa by direction of the Prime Minister, Grand Trunk counsel were informed by the Premier that they must not count on any extension beyond April 9.

Arbitration commenced on February 1, and, as feared, was not concluded when April 9 approached. In anticipation of this eventuality the Minister of Railways, for the Government, wrote Sir Alfred Smithers on February 7, formally reminding the company of the provisions of the agreement and pointing out that in the event of the award not being ready within the period agreed upon, it would be necessary for the Government to consider whether it would exercise its powers to extend the time, and if so, upon what terms or conditions. The system of joint management was stated by the Minister to be embarrassing, inconvenient and expensive, though justified as a temporary expedient and as providing for the possession which the company should have during the preparatory period of its case and, at the same time, by means of a committee of management, for such a measure of unification with the Government Railway System as might be possible. There appeared to be no reason for the continuation of this undesirable system of control beyond April 9, the day on or before which, as originally contemplated, it was to cease.

In inviting the consideration of the management, the minister stated that in view of the Government any provision for this emergency would be inadequate which did not authorize the discharge of the Committee of Management, and the vesting of the stock on or before April 9.

Sir Alfred Smithers, for the company, replied on February 25, urging an extension of three months' time. To ask the company to give up control before the case had been decided by the arbitrators appears to him to be unreasonable. The Minister of Railways replied by cable on March 19, regretting the impossibility of the Government extending the time as requested except upon terms of immediate transfer of management and control of railway. Further operation of the system by the company in conjunction with the Committee of Management was impracticable, especially when considered in connection with attendant deficits. Parliament was then in session and three months' delay in the completion of the case would be too late to secure requisite legislation during that season. The reply of the company (March 22) was to the effect that the request to hand over the railway before the award was so unreasonable that the Board of Directors could not recommend it, and as to the immediate transfer of stock, the stockholders would certainly not consent to transfer their holdings until the final award.

NO FURTHER ADVANCES WITHOUT POSSESSION AND CONTROL

Meanwhile, on March 21, the Minister of Railways addressed the following letter to President Kelly:—

> "With reference to the Grand Trunk Railway estimates, amounting to $89,687,633.39, dated February 22, submitted and signed by Mr. Frank Scott as vice-president, and which have been placed in the estimates now before Parliament, I wish to advise you that the Government of course cannot agree to, or assume any liabilities in connection with those estimates unless nor until they shall have received the approval of Parliament. Moreover, the Government have come to the conclusion to make no further advances on account of the Grand Trunk Railway except payments, if any, for which they are obliged by law, until we have some definite and satisfactory assurances as to when the road is to come into our possession. In the absence of a satisfactory arrangement of these questions, the Grand Trunk Railway must finance on its own responsibility from this time on."

Sir Alfred Smithers protested to the Prime Minister (March 29) that the agreement to purchase by the Government made further financing by the company impossible, and if default occurred in payment of obligations due April 1, it would be considered in London as default of the Canadian Government. Premier Meighen reminded Sir Alfred Smithers in reply (March 30) that the agreement provided for the Grand Trunk doing its own financing, but if, as the chairman asserted, the company could not do this then obviously he should no longer insist on possession and control. The demands of the company, since the arbitration agreement was signed, for financing, and particularly recent demands, had involved large amounts, and the Prime Minister reiterated that consideration of the company's application for extension and for further advances, except payments which the Government was by law obliged to make, must be conditional upon the Government obtaining possession and control.

Sir Alfred Smithers replied (April 1) that, while not relinquishing any legal rights, he had cabled Mr. Kelley to if possible transfer the management of the railway. But as to transferring stocks, no holders would voluntarily transfer until final award was given. He urged the Government to finance the various payments then due. The Prime Minister saw Mr. Kelley, who stated (April 1) that his instructions were not sufficiently definite to enable him to conclude necessary arrangements for transfer of management and possession. This was followed on April 2 by a cable from the chairman (Sir Alfred Smithers) to the effect that he had that morning received unanimous opinion of counsel that under the agreement they could not legally transfer

management under present circumstances. The Prime Minister replied (April 3) that the Government understood perfectly that the existing agreement did not authorize the directors to transfer their powers of management, and that further agreement was required to provide for that, subject to parliamentary sanction. If the board would authorize Mr. Kelley to execute the necessary terms evidencing company's consent, and to put the Government into immediate possession, bill to confirm would be introduced immediately. Only upon these conditions would the Government extend time or make further advances.

On April 6, the company replied, over the joint signatures of Mr. Kelley and F. H. Phippen, denying absolutely any delay on its part either in the preparation or presentation of its case before the arbitrators, and holding it was the obvious duty of the Government to grant the necessary extension of time without seeking to alter the terms of the contract. They claimed that under the circumstances, there was no alternative but that the Government should grant the necessary time and, as the agreement with the Government limited the powers of the company to finance its requirements, the Government should protect the company in that regard.

In acknowledging this letter, the Prime Minister stated that the position of the Government in relation to the matters referred to was sufficiently set out in the antecedent correspondence.

LAPSE OF ARBITRATION PROCEEDINGS

This was the position on April 9, the date set in the agreement for the conclusion of the arbitration, and as the company had not complied with the conditions contingent upon an extension of time, the arbitration proceedings ceased and the powers of the arbitrators lapsed on that date.

The next move was the introduction of a Bill, on April 19, by the Prime Minister, intituled "An Act respecting the Grand Trunk Arbitration." By that measure (chapter 9, 1921) the Government asked Parliament to support the stand taken by the administration. The Government felt the shareholders should not be finally denied the reconstitution of the Arbitration Board until an opportunity was given to meet the conditions required. The Bill would give the shareholders that opportunity and give sufficient time to enable them to meet and decide. It seemed to be a case, not for further negotiation with the company, but for a square and final statement of what must be done, with reasonable opportunity to accept or reject. That was the purport of the Bill, which received its third reading on April 25, and became law on receiving the assent of the Governor General on May 3.

Mention has already been made of the Government assistance rendered the Grand Trunk Pacific up to and including the session of 1918, when negotiations were set in motion looking to the acquisition of the Grand Trunk. The Prime Minister, in his speech introducing the Bill above referred to, brought that statement up to date. Since the Government had been compelled to provide for the operation of the Grand Trunk Pacific in March, 1919, it had had to advance to the receiver some $26,607,000 for the purposes of operation and fixed charges. For the Grand Trunk itself the Government had, since the summer of 1919, advanced various sums in order to keep the system intact and enable it to continue. Those sums aggregated in all approximately $47,000,000. The great part of that had been advanced since the execution of the agreement for the acquisition of the Grand Trunk Railway. It was a fact that the total advanced by way of assistance to the Grand Trunk and Grand Trunk Pacific Companies, inclusive of interest unpaid, amounted, in the case of the Grand Trunk, to $77,297,000, of which all but $15,000,000 was due, and in the case of the Grand Trunk Pacific, to $62,400,000, of which the entire amount was due. The Government had, in this connection, guaranteed obligations of the Grand Trunk

to the extent of $25,000,000. "It is," added the Prime Minister, "very difficult to argue in the face of this recital, that the Government of Canada has at any time dealt harshly with Grand Trunk shareholders or Grand Trunk enterprises."

REVIVAL OF ARBITRATION AND APPOINTMENT OF CANADIAN DIRECTORS

A draft agreement proposed by the Government, and based on the legislation of May 3rd was considered at a meeting of the Grand Trunk shareholders in London on May 12 when necessary authority was given to the directors to execute it. By Order in Council of May 11, the Canadian High Commissioner for Canada in the United Kingdom was authorized to sign on behalf of the Canadian Government and the agreement was executed and exchanged in London on May 13.

The Act provided for the reviving of the arbitration proceedings if the agreement were executed on or before May 16. The agreement provided for the resignation of the Grand Trunk directors, the substitution of a Canadian board and the establishment of the head office in Canada. It provided also for the appointment of a Grand Trunk shareholders' committee to act for the shareholders in the matter of the arbitration proceedings.

The Grand Trunk directors resigned on May 26, and the following were thereafter nominated by the Government and appointed directors: Sir Joseph Flavelle, Bart., Toronto; Howard G. Kelley, Montreal; A. J. Mitchell, Toronto; E. L. Newcombe, K.C., Ottawa; J. N. Dupuis, Montreal. Following this, an Order in Council was passed on May 30, extending for three months the time within which all arbitrators might make their award. On June 11, the Government, by Order in Council, approved and ratified the agreement which had been executed on its behalf by the Canadian High Commissioner on May 13.

The arbitration proceedings were revived on June 1 and the presentation of the case for the Government commenced on the afternoon of June 7. The hearings finally concluded on July 8, and the arbitrators made their award at Ottawa, on the seventh day of September. This, and the reasons therefore, are set out in the following pages:—

GRAND TRUNK ARBITRATION

IN THE MATTER OF THE ARBITRATION

BETWEEN

HIS MAJESTY THE KING in right of the Dominion of Canada hereinafter called the "Government"

Of the First Part;

AND

IN THE MATTER of the GRAND TRUNK RAILWAY COMPANY OF CANADA, hereinafter called the "Grand Trunk"

Of the Second Part.

BEFORE

The Honourable Sir WALTER CASSELS,
Chairman.

The Rt. Honourable Sir THOMAS WHITE, K.C.M.G., P.C.

The Honourable WILLIAM HOWARD TAFT.
Arbitrators.

OTTAWA, the seventh day of September, A.D. 1921.

AWARD

WHEREAS by 10 George V, Chapter 17, assented to on the 10th day of November, A.D. 1919, the Government was empowered to enter into an agreement with the Grand Trunk and with such other companies and interests as the Government might think necessary, for the acquisition by it of the entire capital stock of the Grand Trunk, except the four per cent Guaranteed Stock of the Grand Trunk, amounting to £12,500,000, upon the terms and conditions in said Act, provided for and enacted;

AND WHEREAS, by said Act it was, *inter alia,* provided that the value, if any, of the said stock of the said Grand Trunk so to be acquired as aforesaid should be determined by a Board of three arbitrators, one to be appointed by the Government, one by the Grand Trunk, and the third to be Sir Walter Cassels, President of the Exchequer Court of Canada;

AND WHEREAS, pursuant to the powers and authority given and conferred by the Act aforesaid, the Government entered into an agreement with the Grand Trunk bearing date the 8th day of March, A.D. 1920, whereby *inter alia* it was agreed by and between the parties hereto, that the Grand Trunk acting as aforesaid would use its

best endeavours to cause the sale and delivery to the Government, and the Government agreed to acquire the preference and common stock of the said Grand Trunk, the whole in the manner and on the terms and conditions set forth in said agreement;

And Whereas it was further agreed in and by said agreement, that the value, if any, to the holders thereof, of the said stock, should be determined by a Board of Arbitrators as hereinabove stated, and that the said Sir Walter Cassels should be Chairman thereof;

And Whereas the said agreement was duly ratified by the shareholders of the Grand Trunk, and was approved and confirmed, with some corrections as to the schedules, by 10-11 George V, Chapter 13;

And Whereas, pursuant to the first mentioned Act and the said agreement, the Government then duly named and appointed the Rt. Honourable Sir Thomas White, K.C.M.G., K.C., as its Arbitrator on the Board of Arbitration aforesaid, and the Grand Trunk also named and appointed its Arbitrator on the said Board, namely, the Honourable William Howard Taft;

And Whereas both the said Right Honourable Sir Thomas White and the Honourable William Howard Taft accepted the said office, and they together with the Chairman, Sir Walter Cassels, acted as such Arbitrators, forming the Board of Arbitration aforesaid;

And Whereas, after due notice to the parties the said Board so constituted as aforesaid, met in Ottawa, and after hearing counsel, adjourned to hear evidence to the Board Room of the Grand Trunk in the City of Montreal, where on the first day of February, A.D. 1921, in presence of counsel for all parties, the hearing was resumed before the full Board;

And Whereas by the agreement aforesaid, duly ratified in all respects, by said 10-11 George V, Chapter 13, it was further agreed and enacted that the award of the arbitrators, or a majority of them, should be made within nine months from the appointment of the arbitrators, or within such further time as the Governor in Council might approve;

And Whereas when said delay of nine months expired, the Grand Trunk had not concluded the presentation of its case, and in consequence no award had been made, the Board deciding they had no power to continue, adjourned *sine die;*

And Whereas by 11-12 George V, Chapter 9, assented to on the 31st day of May, 1921, it was enacted that the Governor in Council, upon the Grand Trunk agreeing to further terms and conditions therein stated, might approve of a further time within which the arbitrators, or a majority of them might make their award, the Government and the Grand Trunk being respectively thereby authorized to agree for reviving and continuing the said arbitration, provided the agreement on the terms aforesaid were made on or before the 16th day of May, 1921, which said agreement was duly made and ratified, and an extension of the time duly approved;

And Whereas by said Act it was further provided that in the event of the approval of a further time for making the award under the Act, or of any agreement concluded in pursuance of the powers thereby conferred:—"The powers and duties of the arbitrators shall remain and continue; and be deemed to have remained and continued, and the proceedings shall be resumed and concluded in all respects as if the time within which the Award is actually made had been the time limited therefor by the said agreement of the 8th March, 1920."

And Whereas, in pursuance of said authority, the Board resumed its sittings at the City of Montreal aforesaid, after due notice, and in presence of counsel for both parties;

And Whereas, both parties on Friday the 24th day of June, 1921, having declared their evidence closed, Thursday, the 30th day of June, 1921, was fixed for hearing argument;

And the whole Board having on the said day and succeeding days heard the argument of counsel for all parties, and having also jointly heard all evidence adduced on the matters submitted for arbitration, the Board then reserved its decision;

Now we, the undersigned arbitrators, a majority of the Board, after mature deliberation and after careful consideration of the evidence adduced,

Do Order, Award, Adjudge and Determine that there is no value, to the holders thereof, in the "First," "Second" or "Third Preference Stock," or in the "Ordinary or Common Stock" of the Grand Trunk.

As Witness our hands this seventh day of September, A.D. 1921.

(Signed) W. G. P. CASSELS,
Chairman.
(Signed) T. WHITE.

For reasons stated in a memorandum filed this day I dissent,

(Signed) WM. H. TAFT.

Witness to signatures of all three arbitrators,
(Signed) Arnold W. Duclos.

REASONS FOR AWARD

(By the Chairman, Sir Walter Cassels)

The importance of the questions raised in this Arbitration and the large sum of money involved render it proper to give my views on some of the questions raised.

The Board sat for 71 days continuously, except for the break between 8th April and 1st June, and ceased taking the evidence and hearing the argumnt on the 8th July.

I propose before discussing the construction of the agreement to deal with the surrounding circumstances leading up to its execution, in order to arrive at the true construction of the agreement.—*Burstall vs. Baptist 14 A.C., p. 13.*

Before doing so there are two questions raised by Counsel for the Crown, which I had hoped might not be necessary to be dealt with, but which I feel must be carefully considered.

The first point raised by Counsel is that the accounts of the Grand Trunk Railway System have been so manipulated—I use a milder term than that used by Mr. Tilley—as to render the accounts as presented by the books unreliable and unsatisfactory.

The second point is that for reasons of his own—I will quote later his own reasons as stated by himself—dividends were paid when, to the knowledge of the Chairman, there were no earnings applicable to the payment of such dividends; and those moneys so paid were diverted from paying claims due to the Government, which should have been paid, leaving the Government claim unpaid to the present time.

The Stock Exchange was notified. I have never thought the stock market quotations of any value in arriving at the question to be solved by the Arbitrators, but if the arguments put forward by Counsel for the Grand Trunk Railway have any weight, then the dealings referred to would effectually destroy any value to be derived from such quotations.

As far back as January 20, 1914, a cable is sent to London which reads as follows:—

> "Preliminary figures for half year show $566,000 or say one and a half per cent earned on third preference. To produce this result have increased item of General Interest wherever possible. That item now shows $619,000 as compared with $323,000 last year. If you approve will transfer to Operating Expenses $290,000 same accounts as last year in order to improve comparison of general interest and operating expense account."

This was done. The cable proceeds:—

> "In case you wish to show two and a half per cent earned on third preference it will be necessary to reduce loss on Canada Atlantic by $154,000 and carry in Canada Atlantic suspense, bringing total of that account to $504,000."

It is alleged by Counsel and not denied that this also was done.

McLaren is Chief Auditor to the Grand Trunk Railway. In 1919, according to his sworn statement there was a deficit of $6,483,000. Instead of showing this deficit he shows a surplus of $5,556.

I asked him this question:—

> "Q. And that being a deficit, instead of showing a deficit of $6,483,000, you show a surplus of $5,556 and that is the same all the way through?"

His answer is:—

> "A. Exactly."

On December 10, 1915, Smithers wrote to Sir Robert Borden:—

> "I told my colleagues that at the interview I had with you on March 26th, I had disclosed to you frankly the situation with which the Grand Trunk Railway and the Grand Trunk Pacific Companies would be confronted in the near future. I also told them that after full consideration and with the deepest regret I had proposed to you as the only safe solution of our difficulties, that the Government should take over the Grand Trunk Pacific Railway as from the 1st Janauary next, with all its branch lines, together with its Development Company and other subsidiary companies with all the assets; the Grand Trunk Railway Company to surrender to the Government the whole of the common stock of the Grand Trunk Pacific Railway Company on condition of the Government relieving the Grand Trunk Railway of all liabilities in respect of the Grand Trunk Pacific Railway Company, its branch lines, its Development Company, and other subsidiary companies, and repaying to the Grand Trunk Railway Company any money advanced by the Grand Trunk Railway Company to the Grand Trunk Pacific Railway Company or its branch lines and Development Company and other subsidiary companies.
>
> "In the course of conversation, as an alternative, you suggested that the Government might advance by way of loan sufficient money to supply any

deficiency in the amount required to meet the fixed charges of the G.T.P. Railway for the period of say five years anticipating that at the expiration of that period the net earnings would be sufficient for that purpose. I replied that under the present circumstances I did not think the Grand Trunk Railway Company would be justified in entering into any arrangement which would involve the accumulation of further liabilities against that company's revenues.

"I consider that any such arrangement involving such increased liabilities would so handicap the company's necessary powers of financing as to render it unable to fulfil the ever increasing demands of the public and public bodies; demands which could not possibly be met unless the credit of the Grand Trunk Railway was so maintained as to render possible the raising of fresh capital as required.

"My colleagues agree with the view I expressed to you and with the offer I made to you as expressed above, and which I now repeat with their concurrence. The liabilities of the Grand Trunk Pacific Railway Company will begin to accumulate as from the 1st January next as against net revenues, and any deficiency will have to be met by the Government and the Grand Trunk Railway Company. Under present circumstances, it is quite impossible for the Grand Trunk Railway Company to meet the extra liabilities arising from the Grand Trunk Pacific Railway Company.

"The amount of interest guaranteed by the Grand Trunk Railway Company is about $2,750,000 annually to which must be added the interest on the amount spent on branch lines over and above the amount for which bonds have been or will be guaranteed by the Provincial Governments."

After referring to other matters he proceeds:—

"We have done our utmost to meet the heavy financing which has been necessary, and the difficulty of which has been immensely increased by the disastrous war conditions.

"We are now at the end of our tether with regard to Grand Trunk Pacific financing. The first Grand Trunk Pacific payments for interest after the 1st January next will become due on the 1st March, and amount to just under $1,000,000 and there is no prospect of our being able to meet that payment."

The letter then concludes with regrets and so forth.

A series of cablegrams passing between Chamberlain and Smithers is produced. Chamberlain was then President of the Company.

January 28, 1917. Chamberlain to Smithers.

"Mr. Biggar thinks that unless Government waives its rights or gives consent, it would be improper if not illegal to pay dividends on the guaranteed stock or any preference stock without first making provision for payment of overdue interest on Government loans of 1909 and 1913 to the Grand Trunk Pacific, and also the guaranteed interest on Grand Trunk Pacific securities which rank ahead of the preferred stock. We were criticised by the Government for having paid last year on First Preference and if we were now to pay on First, Second and Third it would be impossible for us to get consent of Parliament for the increase we are asking."

Mr. Biggar, K.C., was at this time General Counsel for the Railway Company.

On the 1st February, 1917, Chairman Smithers to Chamberlain:—

"Referring to your cable January 28, my view is Grand Trunk Pacific is being worked on construction account until by Order in Council it is declared open and operated on revenue account. That date has been postponed by agreement with Government from year to year and the Government

advance money from time to time. Our last expected time for opening would be January 1, 1916, but in anticipation of inability to meet liability we entered into negotiations with Government as summed up in my letter of December 10, 1915, to Prime Minister. The reply was Government would appoint Commission to advise on railway situation, and to carry Grand Trunk Pacific over interval. Government lent $8,000,000 to provide 1916 interest in addition to other concessions mentioned in your letter May 3, especially Minister of Finance's statement he would forego interest on Government G.T.P. loans. Government thus waived its claim up to and including period covered by $8,000,000. I would use every means to postpone any announcement which would embarass your negotiations, but it appears to me legal position is net revenue results actually shown will have to be paid to preference shareholders in their order."

February 2, 1917, Chamberlain cables to Smithers:—

"Referring to your cable January 31, date of completion fixed by Parliament and not by Order in Council. Cap. 34 of Statute 1914 contains following:—

Notwithstanding anything contained in said Trust deed of 10th June, 1905, or any Act or Order in Council heretofore passed, the date for completion of Western Division shall be 31st day of December, 1915, and Government auditors insist upon accounts of company being kept on operating basis since that date.

"With regard to legal obligations to preferred stockholders, would call your attention to definition of net earnings set out in paragraph 18 of agreement of February 9, 1914, providing for amalgamation of Grand Trunk and Canada Atlantic, which amalgamation was confirmed by Act of Parliament, Chap. 89 of Statutes of Canada, 1914."

There could not be in the mind of any reasonable man a belief that net earnings mean anything but earnings after payment of interest on liabilities due.

9th of February, 1917, Smithers cabled Chamberlin:—

"Proposed to defer at all events publication of last year's revenue result until the Board meeting March 2nd. Please cable on receipt of my letter February 2nd preliminary figures before cabling statement to be submitted Board meeting. I am anxiously considering best course to pursue."

Cable is sent:—"Preliminary figures net amount available for dividends after charging up deficit on the D.G.H. and M. Railway and crediting surplus of G.T. Western Railway is £1,302,281.0s. 11d.

"Maintenance of Way expenses £909,214. 17s. 10d. against £1,002,729, 1s. 0d. in 1915.

"General Interest account credit of £234,615, 18s. 10d. against £95,870, 15s. 2d. in 1915.

"No charge made against Development Company for interest on advances in 1916 or against the Central Vermont Railway for advances for Southern New England road construction in same period."

McLaren's attention is called to the fact that his statement shows taken into Grand Trunk Railway of Canada £592,922, 17s. 0d. on account of interest on advance to the Development Company, and he explains;—

"It probably might have been placed in later." On February 20, 1917, Smithers cables Chamberlin:—

"Cable message received in regard to revenue results. Do you see any objection charging revenue with $1,000,000 for maintenance of way showing the amount in the balance sheet as permanent way renewal funds. Have you any other suggestion to make?"

Chamberlin to Smithers, 21st February, 1917:—

"There would be no objection to charging to maintenance of way but we need rolling stock more than anything else. Our rolling stock stands on books $55,000,000, and feel we should charge off two or three per cent annually for depreciation using same for renewals. Please cable which you will have it taken care of and amount."

February 22, 1917, Smithers cables Chamberlin:—

"Think Maintenance of way expenses should be increased $500,000 to approximate 1915 figures showing amount in balance sheet as renewal fund and that a further $600,000 be charged on account of rolling stock. Is there any objection to debiting general interest account with this $600,000 to equalize them? Will not amount mentioned in your letter of August 21st be eventually used for rolling stock renewals?"

"Cable 23rd February, 1917, to London:—

"Have increased maintenance of way expenses $500,000 and will reduce general interest by $600,000. Amount mentioned in letter of August 21st can be used for rolling stock renewals. State what date you require usual cable." Then follows cable, Chamberlin to Smithers, February 26, 1917, informing Smithers; "Drayton-Acworth Commission with us and hope for favourable report" but proceeds as follows:—

"This expectation, however, will be entirely destroyed if you should pay dividends on anything more than First Preference. In my opinion, if anything more than that is done you must give up all idea of further relief in connection with G.T.P. at least for the present. Would also be advisable if possible to avoid publishing final figures net earnings at least until June."

On February 26, 1917, Smithers to Chamberlin:—

"Propose to pay full dividend of Grand Trunk Second Preference stock, which after charging amounts mentioned in your cable message of February will leave balance of $280,000. The $600,000 mentioned in that cable message should be included in accounts due by company and not included in any renewal funds."

"The balance of $280,000 should be added to renewal funds and we must state in the dividend announcement that owing to the impossibility of obtaining necessary supplies and labour we have been unable to maintain as we should otherwise have done and the leeway will have to be made up at greatly increased prices and consequently we are carrying in the renewal funds about £400,000 which has been charged to working expenses. Please cable if you understand and your recommendations as to allocating the $280,000, stating amount of each fund as it would appear on the balance sheet. If this is clear will cable further to-morrow and you can cable full statement Wednesday."

McLaren explains in reference to the item of $600,000 that the accounts due by the company should be increased by $600,000.

On February 27, 1917, Smithers cables Chamberlin:—

"Position is one of much difficulty. Will postpone announcement this week. Think it impossible to postpone publication of accounts as suggested. In view of net profits shown end of November shareholders expect dividends on Grand Trunk Second Preference Stock, Grand Trunk Third Preference Stock, so we must disclose we are holding balance. As mentioned in my cable message of yesterday, if we do not pay dividends on Grand Trunk Second Preference Stock, and so increase balance it will increase shareholders' dissatisfaction *and render Board of Directors' position more difficult.* If we do, however, and—dividend on Grand Trunk Second Preference Stock to balance on account of renewals will not Government say we must reserve amount for

1917 Grand Trunk Pacific Railway payments? Think I could carry proposal mentioned in my cable message yesterday with shareholders satisfied and if the Governn ent objected we should show 1917 increased prices would absorb amount held over. Suppose we pay dividends on Grand Trunk Second Preference stock, and the Government then think we can take on liabilities of Grand Trunk Pacific Railway would not their view alter when they see how working expenses are increasing as will be shown in the monthly revenue statements? Dividend on Grand Trunk Second Preference Stock is only £125,000 and the answer to the Government would be we have no option according to Grand Trunk Acts and it is doubtful if we may not be compelled to pay Grand Trunk Third Preference Stock. Government must realize last year was quite exceptional. Will be pleased to consider further suggestion Do not cable January working until results of last year published."

On February 27, 1917, cable from London:—

"In your last cable you set aside another $500,000 which makes this account $1,200,000 or £246,575 6s. 10d. This with the £280,000 now mentioned will give a total of £526,575 6s. 10d. instead of £400,000 as mentioned by you. Do you wish that only £400,000 should be shown as renewals, and the balance included in Preferred credit imtems, which is part of the accounts collectible?

"Would suggest that the renewal account covered by the £280,000 should be called "Engine and Car Renewal Account." So that it can be used for either engines or cars as necessary.

"Will include the $600,000 in our Preferred Credit Items, so that it will not show in the Balance Sheet."

February 28, 1917, Chamberlin to Smithers:—

"Think we could probably get away with dividends on First Preference, but am very much affraid if you declare dividend on Second, Government will call on us to pay Grand Trunk Pacific interest. If any comment should be made relative to balance carried over, we could say that it was held to protect us for heavy expenses entailed this half year by severe winter, and abnormal increase in price of coal and other materials, while if paid out in dividends it would leave us without any excuse."

February 28, 1917, Smithers to Chamberlin:—

"Leave in the accounts collectible the amounts of $500 000 and $200,000 for maintenance of way renewals mentioned in your cable message of yesterday and charge the further $500,000 for maintenance of way to working expenses, showing amount as special items in the balance sheet under head of maintenance of way renewal account. The £280,000 should be charged to working expenses and also shown in the balance sheet as special item under head of Engine and Car Renewal Accounts. Do not make these changes until we have agreed as to dividends on Grand Trunk Second Preference Stock in the light of my cable message of yesterday."

March 2, 1917, Smithers cables Chamberlin:—

"I have most anxiously thought of payment of dividends on Grand Trunk Second Preference Stock.

"I am certain non-payment after the showing to the end of November would create grave dissatisfaction among Grand Trunk shareholders and would doubtless result in agitation against Board of Directors and applications to the Courts. The relation of Board and shareholders here is quite different from what it is in America, *and one can suddenly drift into a very uncomfortable position.* If the Government complains we can urge the difficulty created by our special Acts of Parliament of Canada and that we did all possible by holding in suspense £400,000 when negotiations renewed. Our

monthly revenue statements will show this year, owing to heavy increase in working expenses, exceptional state of things last year. Hope you will be able to agree with me as to necessity of what I propose which Board approved after full consideration. Please cable."

9th March, 1917, Smithers to Chamberlin:—

"Referring to your cable of March 7th. Cannot understand Mr. Biggar's statement as to interest overdue to the Government on loans and guaranteed bonds. What amounts do you suggest are overdue and should be included in Grand Trunk accounts before the payment of dividends? How and when have they been formally demanded from the Grand Trunk Railway Company of Canada? In view of your letter of May 3rd cannot see how any amounts can be overdue. Cable particulars fully."

9th March, 1917, cable, Chamberlin to Smithers:—

"Your cable 9th. In July, 1915, the Government, by registered letter addressed to me as President of the Grand Trunk Pacific and as President of the Grand Trunk Railway Company of Canada, demanded payment of the sums of $200,000 and $300,000 respectively, being interest then due upon the $10,000,000 advanced by the Government in 1909 on account of the Prairie Section and the $15,000,000 advanced in 1913 on account of the Mountain Section. Payment of interest upon these advances was, as you know, guaranteed by Grand Trunk Railway Company of Canada. On 27th ultimo the Deputy Minister of Finance wrote Vice President and Treasurer Scott enclosing memorandum showing interest amounting to $2,300,000 due by the Grand Trunk Pacific on these advances and asking to be advised as to the possibility of these amounts being paid in the near future. To this, reply was sent that there was no immediate prospect of interest being remitted. *All estimates sent you have shown as separate items interest due Government on these advances.*"

10th March, 1917, Smithers cables Chamberlin:—

"Confidential and unofficial. Sent yesterday cable message after long sitting with Committee of Board. We agree best course is to pay dividend on Grand Trunk Second Preference stock while holding in suspense £400,000 for renewal. I can get this through general meeting and *avoid serious agitation.* I feel sure, however, some of the Directors will not consent to this unless Mr. Biggar can modify his opinion. You see it even covers dividends on Grand Trunk First Preference Stock. If Mr. Biggar considers it absolutely illegal it appears to me only alternative will be to place much as possible to suspense for renewal and carry forward balance explaining that pending negotiations with Government we did not feel justified in dividing it. I fear Government would then claim amount but if it is not shown openly *shareholders would probably press for Committee of Investigation.* Reply to this and yesterday's cable message separately. Time short. We must make announcement March 16th."

March 12th, 1917, Chamberlin cables Smithers:—

"Mr. Biggar's view is that under the Act of 1862 dividends on the stocks in question are only payable in case sufficient 'net earnings' are available and that in arriving at 'net earnings' provision must first be made for payment of the amounts due the Government under the guarantees referred to. So long as you do not utilize in payment of those dividends moneys required to pay the Government should payment be insisted upon, the question of legality would not, in his opinion, arise."

March 12th, 1917, cable Smithers to Chamberlin, in which he refers to fact that dividends on guaranteed stock for 1915 paid without questions and so on, and suggests loan of $8,000,000 cleared Grand Trunk Pacific until end of 1916, and shareholders so informed in notice to Stock Exchange.

Chamberlin replies by cable, March 13th, 1917, in which he points out that he never intended to convey the impression that interest was cancelled but only deferred for future consideration, etc. There are one or two further cables in the same line.

Finally on March 10th, 1917, Smithers cables Chamberlin:—

> "Board have decided to pay Grand Trunk Second Preference stock dividend in full, reduce General interest by £100,000 and include amount in Preferred credit items as suggested in your cable message of February 27th, also debit net income account with £400,000 as a reserve towards meeting contingencies and possible liabilities showing amount specially in the general balances. Announcement published to-day."

Dividends paid; unpleasantness to Directors avoided. Neither Sir Alfred Smithers nor Mr. Chamberlin were produced as witnesses on the part of the Grand Trunk Railway Company of Canada. Further comment is unnecessary.

The next question to be discussed is the effect of the evidence disclosed in the proceedings before what is commonly known as the "Drayton-Acworth Commission." Considerable evidence was adduced before us and argument as to so-called "Deferred Maintenance Reserves." I quoted on the argument two authorities, and repeat them.

> "In the Supreme Court of the United States. City of Knoxville vs. Knoxville Water Company. 212 U.S. Rep. 2, at p. 13.
>
> Mr. Justice Moody: The court refused to approve this method, and we think properly refused. A water plant, with all its additions, begins to depreciate in value from the moment of its use. Before coming to the question of profit at all the company is entitled to earn a sufficient sum annually to provide not only for current repairs, but for making good the depreciation and replacing the parts of the property when they come to the end of their life. The company is not bound to see its property gradually waste, without making provision out of earnings for its replacement. It is entitled to see that from earnings the value of the property invested is kept unimpaired, so that at the end of any given term of years the original investment remains as it was at the beginning.
>
> It is not only the right of the company to make such a provision, but it is its duty to its bond and stockholders, and, in the case of a public service corporation, at least, its plain duty to the public. If a different course were pursued, the only method of providing for replacement of property which has ceased to be useful would be the investment of new capital and the issue of new bonds or stocks. This course would lead to a constantly increasing variance between present value and bond and stock capitalization—a tendency which would inevitably lead to disaster either to the stockholders or to the public, or both. If, however, a company fails to perform this plain duty, and to exact sufficient returns to keep the investment unimpaired, whether this is the result of unwarranted dividends upon over-issues of securities, or of omission to exact proper prices for the output, the fault is its own. When, therefore, a public regulation of its prices comes under question, the true value of the property then employed for the purpose of earning a return cannot be enhanced by a consideration of the errors in management which have been committed in the past."

And in a case decided by Jessel J., then Master of the Rolls, pertinent language on the same point is used. This was a case in which an application was made to

restrain payment of dividends, the contention being that profits had not been made entitling the company to the payment of dividends.

In delivering judgment, Jessel, J., Master of the Rolls, used the following language:—

> "Then I have to consider the question, What are net profits? A tramway company lays down a new tramway. Of course the ordinary wear and tear of the rails and sleepers, and so on, causes a sum of money to be required from year to year, in repairs. It may or may not be desirable to do the repairs all at once; but if at the end of the first year the line of tramway is still in so good a state of repair that it requires nothing to be laid out on it for repairs in that year, still, before you can ascertain the net profits, a sum of money ought to be set aside as representing the amount in which the wear and tear of the line has, I may say, so far depreciated in value as that that sum will be required for the next year or next two years. Take the case of a warehouse. Supposing a warehouse-keeper, having a new warehouse, should find at the end of the year that he had no occasion to expend money in repairs, but thought that by reason of the usual wear and tear of the warehouse, it was £1,000 worse than it was at the beginning of the year, he would set aside £1,000 for a repair or renewal or depreciation fund before he estimated any profits; because, although that sum is not required to be paid in that year, still it is the sum of money which is lost, so to say, out of capital, and which must be replaced. I should think no commercial man would doubt that this is the right course—that he must not calculate net profits until he has provided for all the ordinary repairs and wear and tear occasioned by his business. In many businesses there is a regular sum or proportion of some kind set aside for this purpose. Ship-owners, I believe, generally reckon so much a year for depreciation of a ship as it gets older. Experience tells them how much they ought to set aside; and whether the ship is repaired in one year or another makes no difference in estimating the profits, because they know a certain sum must be set aside each year to meet the extra repairs of the ship as it becomes older. There are very many other businesses in which the same thing is done. That being so, it appears to me that you can have no net profits unless this sum has been set aside."

Other authorities to the same effect were cited by Mr. Butler in his argument to the Board.

Following the letter of the 10th December, 1915, the Commission was appointed to enquire into the whole railway situation, and material evidence under oath was given by Mr. Chamberlin, President of the Grand Trunk Railway Company of Canada, and of the Grand Trunk Pacific, and corroborated by Mr. Kelley, then Vice President and Chief Engineer.

There has been no attempt to vary this evidence. Mr. Chamberlin was not produced as a witness in the Arbitration proceedings; and Mr. Kelley, although on the stand for several days, was not questioned in regard to these statements. I quote some parts of this evidence. Sir Henry Drayton asked Mr. Chamberlin the following questions:—

> "There is one other matter; you think that the Government as a matter of fairness to the Grand Trunk, ought to relieve the Grand Trunk Railway Company of its total Grand Trunk Pacific investment?
>
> "Mr. CHAMBERLIN: I do.
>
> "Sir HENRY DRAYTON: And repay to the Grand Trunk the money it has in the Grand Trunk Pacific, and relieve the company of all its responsibilities. That is a large order. We want to give you every opportunity to state every ground on which you think that should be done.

"Mr. CHAMBERLIN: Well, Sir Henry, if you will look at this map, you will see where the Grand Trunk Pacific stretches away off up through the north country, while the Grand Trunk is away down in this part of the country. It is not a natural connection of the Grand Trunk is it? It is not only not a connection with the Grand Trunk but it is not of any benefit to the Grand Trunk.

"In the first place, we are under contract to send all business over this north line, away from the Grand Trunk. The Grand Trunk cannot derive any benefit from it, under the contract with the Government.

"Commissioner ACWORTH: That is a new point, to me.

"Mr. CHAMBERLIN: In addition to that, the company is bound to put steamers on the Atlantic and steamers on the Pacific, to accommodate all that business, and yet it does not bring one dollar of business to the Grand Trunk.

"Commissioner ACWORTH: How does that obligation arise?

"Mr. CHAMBERLIN: It arises out of the contract with the Government.

"Commissioner ACWORTH: The original contract with the Government?

"Mr. CHAMBERLIN: The original contract.

"Mr. BIGGAR: Of July 29, 1903.

"Commissioner ACWORTH: Is the agreement a schedule to the Act?

"Mr. BIGGAR: Yes, sir, a schedule to the Act of 1903. Chapter 80, I think it is.

"Commissioner ACWORTH: Therefore, if the Grand Trunk, as it does at present, operate or control the operation of the Grand Trunk Pacific, were to send traffic through Portlaud instead of through Halifax, it would be a fraud on the agreement?

"Mr. CHAMBERLIN: Yes. We are bound to go on with all that tremendous outlay and to carry that load, and yet not get one dollar of benefit from it. The Grand Trunk simply cannot carry it.

"Commissioner ACWORTH: Let me ask this question; when you went away from the agreement to work the Transcontinental, was that question of the obligation of the Grand Trunk Pacific to carry over the Transcontinental ever raised?

"Mr. CHAMBERLIN: No. The agreement is with the Grand Trunk Pacific, not with the Transcontinental.

"Commissioner ACWORTH: But it was practically Grand Trunk, rather than Grand Trunk Pacific.

"Mr. CHAMBERLIN: It is in the name of the Grand Trunk Pacific, not of the Grand Trunk.

"Commissioner ACWORTH: The Grand Trunk Pacific said they could not work the Transcontinental with its present cost?

"Mr. CHAMBERLIN: Yes.

"Commissioner ACWORTH: And the Grand Trunk Pacific did not raise, and the Grand Trunk was not in a position to raise—that is what it comes to—the question of whether the obligation remaining on the Grand Trunk Pacific to run over the Transcontinental was a reasonable one?

Mr. CHAMBERLIN: Well, it was not raised, anyway.

"Commissioner ACWORTH: I am an outsider in regard to these matters and have to pick them up as we go along.

"Mr. CHAMBERLIN: The only body that could raise that question would be the Government, I should say.

"Mr. BIGGAR: The only company which could raise any objection would be the Grand Trunk Pacific.

"Commissioner ACWORTH: An obligation to operate *via* Halifax rather than *via* Portland is an obligation of the Grand Trunk, not of the Grand Trunk Pacific?

Mr. BIGGAR: Yes. It is provided for in the agreement dated the 29th of July, 1903, which is a schedule to chapter 71 of the Statutes of Canada, 1903.

"Commissioner ACWORTH: The Act constituting the system?

"Mr. BIGGAR: An Act confirming an agreement entered into between His Majesty the King and Sir Charles Rivers Wilson and others acting on behalf of the Grand Trunk Pacific Railway Company.

"Clauses Nos. 41 to 45, inclusive, provide:—

"41. At all times during the terms of the said lease the company shall continuously and efficiently operate both divisions of the said railway, giving due and sufficient service for the accommodation of all traffic to the satisfaction of the Government.

"42. It is hereby declared and agreed between the parties in this agreement that the aid herein provided for is granted by the Government of Canada for the express purpose of encouraging the development of Canadian trade and the transportation of goods through Canadian channels. The company accepts the aid on these conditions, and agrees that all freight originating on the line of the railway, or its branches, not specifically routed otherwise by the shipper, shall, when destined for points in Canada, be carried entirely on Canadian territory, or between Canadian inland ports, and that the through rate on export traffic from the point of origin to the point of destination shall at no time be greater *via* Canadian ports than *via* United States ports, and that all such traffic, not specifically routed otherwise by the shipper, shall be carried to Canadian ocean ports.

"43. The company further agrees that it shall not, in any matter within its power, directly or indirectly, advise or encourage the transportation of such freight by routes other than those above provided, but shall, in all respects, in good faith, use its utmost endeavours to fulfil the conditions upon which public aid is granted, namely, the development of trade through Canadian channels and Canadian ocean ports.

"44. In respect of the tolls for any traffic carried partly over any line of railway operated by the company and partly over any of the lines of the Intercolonial railway, a fair and equitable rateable division of all such tolls shall be made by mutual agreement, or, in case of dispute, such division shall be fixed by arbitrators appointed in the manner provided by paragraph forty-seven of this agreement, or by a Board of Commissioners which may hereafter be duly appointed as mentioned in paragraph nineteen of this agreement, and with the right of appeal as therein mentioned.

"45. The company shall arrange for and provide, either by purchase, charter or otherwise, shipping connections upon both the Atlantic and Pacific oceans sufficient in tonnage and in number of sailings to take care of and transport all its traffic, both inward and outward, at such ocean ports within Canada, upon the said line of railway, or upon the line of the Intercolonial railway, as may be agreed upon from time to time, and the company shall not divert or, so far as it can lawfully prevent, permit to be diverted, to ports outside of Canada any traffic which it can lawfully influence or control, upon the ground that there is not a sufficient amount of shipping to transport such traffic from or to such Canadian ocean ports.

"Mr. CHAMBERLIN: We are bound to make the same rates from Halifax and St. John as are made to Boston and Portland, and we are bound to provide steamships on the Atlantic and on the Pacific to take care of any business offering.

"Commissioner ACWORTH: You never have provided ships on the Atlantic, in fact?

"Mr. BIGGAR: No.

"Commissioner ACWORTH: And the Government has never called on you to carry out your contract?

"Mr. CHAMBERLIN: You talk about the money the Government would have to raise to pay off the Grand Trunk. They would not have to raise $250,000. This has been financed on a three and four per cent basis except on loans from the Government, and I have offered to take the advances in Government bonds of ten or fifteen years.

"Sir HENRY DRAYTON: But the obligation is there the burden is there, and the carrying costs are there.

"Mr. CHAMBERLIN: Yes, but it is really a matter of financing, to-day.

"Sir HENRY DRAYTON: Your first point, Mr. Chamberlin, is that the Grand Trunk is not interested in all this development at all, and that the railway as contracted for and laid out is something which takes traffic away from the parent Grand Trunk System instead of giving traffic to it.

"One answer that might be quite easily made to that is that the representatives of the Grand Trunk must have known all that when this contract was entered into?

"Mr. CHAMBERLIN: I don't know.. They must have. Of course, I do not want to criticize my predecessors."

(p. 81).

"Sir HENRY DRAYTON: You speak of confiscation, in your letter, Mr. Chamberlin. No person is thinking of confiscating the investment that I know of. If you can afford to carry it, you will be allowed to carry it. That was not really meant, was it? Suppose you are left to yourselves, *the thing crashes,* no one confiscates it. Isn't that right?

"Mr. CHAMBERLIN: To a certain extent, yes.

"Sir HENRY DRAYTON: To every extent, isn't it?

"Mr. CHAMBERLIN: To every extent.

(p. 82).

"Sir HENRY DRAYTON: You also mention in your letter that the money was put into the undertaking in good faith, and that it was a national undertaking. We have to look upon that more or less in the way these large terms are usually taken. It is only national to the extent that the agreement makes it.

"Mr. CHAMBERLIN: Of course we are very anxious to avoid a break or a *crash.* The Grand Trunk has to raise a great deal of money, as you know in your Department, for grade separations, improvements to hotels, etc.

"Sir HENRY DRAYTON: I quite agree with that. You should be able to raise a great deal of money for the purchase of rolling stock and so on.

"Mr. CHAMBERLIN: We have to. Of course the debenture stock is a first Lien, and these guarantees are right behind the debenture stock.

"Sir HENRY DRAYTON: Your point, I take it, is that it is impossible for the Grand Trunk to continue its service and raise money, under these circumstances.

"Mr. CHAMBERLIN: Absolutely.

"Mr. CHAMBERLIN: The idea is that if the Grand Trunk and the Grand Trunk Pacific *go into insolvency—which they will have to do* if the Grand Trunk attempts to carry out that arrangement—the Grand Trunk Pacific having been heralded and looked upon as a Government backed road, it would naturally have an effect upon the other securities as well."

(p. 83).

"Sir HENRY DRAYTON: Doesn't it really come down to this, that the statements in your letter mean that in your view, in order to protect the finances

of the Grand Trunk, and as a corollary to protect the finances of the country, the Government ought to relieve the Grand Trunk in regard to its investment; isn't that the whole thing?

"Mr. CHAMBERLIN: That is the whole thing.

"Sir HENRY DRAYTON: There is nothing else to it?

"Mr. CHAMBERLIN: Nothing else.

"Mr. CHAMBERLIN: The fact is that the Grand Trunk is not able to contribute anything towards paying its own security holders and making the improvements the people of Canada demand and the business of Canada requires.

"Sir HENRY DRAYTON: But last year the Grand Trunk gave its shareholders half a million sterling?

"Mr. CHAMBERLIN: Yes."

(p. 84, line 1).

"COMMISSIONER ACWORTH: To say to the Grand Trunk that they must pay these liabilities to whatever extent they can, because as far as the public was concerned the Government would have to face the rest, but that the Grand Trunk must do all it can.

"Mr. CHAMBERLIN: The Grand Trunk can just about meet it, but cannot pay the shareholders anything.

"COMMISSIONER ACWORTH: It divided a profit last year of $2,500,000?

"Mr. CHAMBERLIN: You do not call it munificent, to pay interest on your guaranteed securities, do you?

Commissioner ACWORTH: But guaranteed stock is a share, not a bond. Are we agreed upon it, that the company divided a certain amount last year as a profit, a profit dividable as a dividend?

"Mr. CHAMBERLIN: How about the first, second, and third Preference stocks?

"COMMISSIONER ACWORTH: Those holders would not get anything. For a series of years there has always been some amount paid as dividend?

"Mr. CHAMBERLIN: We would not have paid so much last year, if we had paid out on the Grand Trunk as much as we ought to have paid for betterments.

"Sir HENRY DRAYTON: If you had paid all you should have paid out for betterments, you would not have been likely to have paid anything?

"Mr. CHAMBERLIN: No. We have not put in any rails for two years past, of any account.

"Sir HENRY DRAYTON: How much do you think you should put in, to keep things right, in order to look after proper operation?

"Mr. CHAMBERLIN: We should have at least three and perhaps four per cent put aside every year on rolling stock. That would amount to from $2,000,000 to $2,500,000.

"Sir HENRY DRAYTON: You have never done that?

"Mr. CHAMBERLIN: We have never done that. I have had it before the Board, and have practically insisted upon it being done whenever we get any new rolling stock. I bought about 10 000 cars the first year I was here. They were all charged to capital account. We should have had a reserve fund for taking care of them. We now have to go and do the same thing over again.

"Sir HENRY DRAYTON: Supposing you were to reconstruct your accounts now; I want to see what effect these items would have on the Grand Trunk. What would the providing of three or four per cent annually amount to?

"Mr. CHAMBERLIN: My idea is that it would take five per cent. Take engines and cars, they are either worn out or out of date in twenty years.

"Sir HENRY DRAYTON: I agree with you absolutely. If you were to tell your accountants to go and make provision of that kind in respect of your equipment, on that basis, it would preclude the shareholders from receiving anything for years and years?

"Mr. CHAMBERLIN: You mean, if we made it up for back years?

"Sir HENRY DRAYTON: Yes.

"Mr. CHAMBERLIN: Yes, it would. It would mean $2,750,000 a year.

"Sir HENRY DRAYTON: You would have to go back probably twenty years to make it right.

"Mr. CHAMBERLIN: Yes.

"Sir HENRY DRAYTON: To put your accounts in proper shape, in regard to a proper equipment, would require a reserve of $25,000,000.

"Mr. CHAMBERLIN: Take the matter of grade separation at Toronto, for instance.

"Sir HENRY DRAYTON: Suppose you suggest $27,000,000—wouldn't $25,000,000 be enough to properly provide for reserves for equipment?

"Mr. CHAMBERLIN: Yes, I think it would. We have now a lot of new equipment charged to capital; if we had $25,000,000 now, it would put us in fine shape."

(P. 85)

"COMMISSIONER ACWORTH: I don't know about 1916, but even in 1915 you did not put in very many new rails?

"Mr. CHAMBERLIN: No, we did not.

"COMMISSIONER ACWORTH: And did not make a reserve for the money you would have spent if you had got the rails?

"Mr. CHAMBERLIN: I do not mean to say that the rails are dangerous. But we must put in a certain percentage every year. If we go over a couple of years, the first thing we know we will have a lot of rotten rails."

Next in order is Mr. Kelley's statement in answer to Sir Henry Drayton. See Exhibit No. 444. I quote from the Drayton-Acworth Report at page xxxiii. The details are fully set out in the Exhibit referred to.

"The Vice-President in charge of operations, Mr. Kelley, has direct responsibility for the plant. On Mr. Chamberlin's evidence being put to him, he agreed with it. He has since submitted to us a full report on the question of Deferred Expenditure. 'Deferred Expenditure' means, in plain English, expenditure which has not been made, but which, in view of those charged with the duty of maintaining the plant, ought to have been made.

"We give below Mr. Kelley's summary in tabular form, but we do not think it necessary to reproduce all the supporting tables.

"GRAND TRUNK RAILWAY SYSTEM"
SUMMARY OF DEFERRED EXPENDITURES

Rebuilding and reinforcing freight car equipment		$ 8,943,971.14
Rebuilding freight and passenger cars with safety appliances—		
Original estimate	$850,722.50	
Already expended	392,220.89	
Balance to be expended		458,501.61
Equipping engines with safety appliances—		
Original estimate	$ 17,828.00	
Already expended	553.68	
Balance to be expended		17,274.32
Deferred renewals in Maintenance of Way Department—		
In Canada	$6,182,672.00	
In United States	5,578,926.00	
		11,761,598.00
Total		$21,181,345.07

MONTREAL, March 5, 1917."

"On the single item of 'rails' the 'cash expenditure required to restore to normal conditions' is reported as $5,312,142. The cost of restoring ballast to normal conditions is reported as $2,434,000.

"With reference to the Deferred renewals in Canada amounting to over $6,000,000, it appears that they have accumulated during 11 years, 1906-16. During this period, in spite of the requirements of the property, and the claims of public safety, $36,000,000 were paid out in dividends.

"The $21,000,000 dealt with above represent the money which the responsible officers of the company estimate to be required to put the existing plant into good normal condition. This is a revenue liability. But the existing plant is quite in adequate for existing traffic and requires large additions, for which new capital must be raised. The estimates of necessary capital expenditure submitted to us are as follows:—

Requirements for rolling stock, shops and machinery....	$26,150,000
Requirements for automatic block signals (main line in Canada only)..	3,533,000
Requirements for installing rock ballast crushing plant..	467,500
Total..	$30,150,500

Putting together revenue and capital expenditure, we find that the Grand Trunk Railway, in the opinion of its own officer, requires over $51,000,000 spent upon it to put it in a position to meet the requirements of its to-day's business. We see no reason to expect that under existing conditions this necessary money will be provided.

Before dealing with the correspondence leading up to the agreement and the meaning of the agreement, it may be well to refer to what is called "The Budget." It throws light on the financial position of the Grand Trunk Railway System. The Budget is contained in exhibit 475. It is headed:—

"The Grand Trunk Railway System.

"Estimated Cash Requirements including Capital.

"Expenditure, meeting obligations, etc.

"January 1, 1921, to March 31, 1922."

The grand total is $89,687,633.39.

It is only necessary to consider the enormous outlays necessary, to understand how futile it is to expect a railway to pay dividends unless material outside assistance is furnished.

It is unnecessary to set out in detail the items of requirements for the fifteen months from January 1, 1921, to March 31, 1922. Exhibit 475 contains the information in full.

I proceed now to give my views as to the construction to be given to the agreement. In the opinion pronounced on February 7, 1921, I declined to acquiesce in the argument of Mr. Lafleur that the Statute in question was a forcible expropriation of the three Preference Stocks and the Common Stock.

After hearing further argument by Counsel for the Grand Trunk Railway and the Crown, I am convinced that the view I formed is correct. The correspondence printed regarding the Grand Trunk Railway acquisition, and the facts leading up to the agreement, demonstrate that the shareholders were quite free to enter into an agreement or not as they thought best in their own interests. It is apparent that the Grand Trunk Railway were at the end of their tether and without assistance could not carry on; and, aware of this fact, the Company endeavoured to obtain the best price possible for the sale of their undertaking.

In 1919, Chapter 17, George V, was enacted, which authorized the Government and the Grand Trunk Railway to enter into an agreement by which the Crown would

acquire and the Grand Trunk Railway of Canada would sell the whole Grand Trunk Railway System to the Crown on the terms set out in the Statute.

There was no compulsion or forcing of the Grand Trunk Railway shareholders to enter into the agreement; they were free agents and as such voted in favour of the agreement, and thereupon the agreement of March 8, 1920, was entered into by the Crown and the Company.

Under the terms of this agreement the Crown assumed large liabilities of the Grand Trunk Railway System from the date of the appointment of the Committee of Management, May, 1920.

The contention on the part of the Crown was that they had agreed to pay full and adequate compensation, and that there was no value in the first, second and third Preference stocks or in the common stock of the Grand Trunk Railway Company of Canada.

The Grand Trunk Railway Company of Canada, on the other hand, contended that there was value to the holders of the first, second and third preference and common stocks, and the agreement provided for this Arbitration to determine what, if any, sum should be paid to the stockholders.

If the Board of Arbitrators find any sum due this amount is to be satisfied by guaranteed stock bearing interest at four per cent, such interest dating back to the date of the appointment of the Committee of Management, namely, May, 1920, the date when practically the sale and purchase was completed.

It is a common form of agreement for a vendor to agree to sell and a vendee agree to buy for a price to be settled by arbitration. In the Court of Chancery in Ontario and I think in England it is common practice to obtain a vesting order where a vendor refuses to carry out the terms of a judgment ordering him to convey the property.

In this case, whether any amount is awarded or not, the four classes of stockholders have agreed to assign their stock.

Coming now to the construction of Clause 6 of the agreement of the 8th March, 1920:—

"The value, if any, to the holders thereof"; I am of the opinion that "value" means the "intrinsic value."

The cases cited by Mr. Tilley, Peake *vs.* Derry, etc., are very much in point. All the negotiations are based on earning power, and it was the intrinsic value the parties evidently had in view.

Watcham vs. Attorney General E.A. Appeal Cases 1919, p. 538. And for the reasons given the quotations of the Stock Market would form no criterion.

I now proceed to deal with the important question, the subject matter of the decision of the 7th February, which decision *seemed* to afford considerable dissatisfaction to the counsel for the Grand Trunk Railway Company. I see no reason whatever to doubt the correctness of the view I then formed, and I do not wish to repeat the reasons I then gave.

Throughout the proceedings Counsel constantly referred to this decision as "the majority decision." This is incorrect. So far as the principle or basis of compensation is concerned, the Board are unanimous. My friend Mr. Taft, who is quoted as "the dissenting Arbitrator," is, if the record is correct, fully in accord with the views expressed by Sir Thomas White and myself. I quote his language:—

> "Without saying that market quotations may not be submissible, it is clear that we must look for other means of determining the issue here. The whole stock of the railway is valuable or otherwise as the ownership and control of the physical property of the railway as a going concern in the discharge of its public duties will enable it to earn a sufficient amount to pay dividends on the stock. We are, therefore, to capitalize its net earning capacity, present and potential, and fix the value of the stock on that basis. Its

earning capacity, present and potential, is what is now earned and what it may be expected to earn under reasonable probable conditions. Net earnings are the revenue received less the operating expenses. What determines the revenue of a going railway are the amount of its business and the rates it can charge."

During Mr. Tilley's argument for the Crown, the following remarks of Mr. Taft indicate a complete accord with the views of the majority (p. 7676):—

"Hon. Mr. TAFT: Mr. Tilley, we are here to determine the value of this road, this Company's property, and we are using these accounts to find out what its earning capacity was during these various years. We also have to take into consideration what its liabilities are; what its permanent liabilities are. These seem to be, so far as the Grand Trunk Pacific is concerned, something like $3,700,000."

Again at page 7678:—

"Hon. Mr. TAFT: The question of the operating income; the net operating income is the basis on which we must calculate the value of this road, reduced by what its liabilities may be in the future."

The point of difference was to the reception of certain evidence. This evidence, according to the view of Mr. Taft, might be of value as indicating a probable increase of rates by the Interstate Commerce Commission.

Under Clause 7 of the agreement, the Arbitrators, or a majority, have sole discretion as to the admission of evidence, and if the majority are of opinion that no amount of evidence of the character offered would effect their opinion, surely it was their duty to rule it out and save an enormous amount of expense and delay. Besides, if what the Board consider is the correct principle upon which the valuation has to be made, namely, earnings, how can it possibly affect the case what the reproduction cost might be? The question that might come up before the Interstate Commerce Commission is not merely the value of the Grand Trunk Railway System, but the value of the group of railways of which the Grand Trunk Railway is but one, and how could we go into these questions? It would be a pure guess, not based upon any accurate knowledge.

In the case of the United States vs. the Boston Cape Cod and New York Canal Company, decided by the Circuit Court of Appeal, First Circuit, Massachusetts, on February 16th, 1921, and reported in 71 Federal Reporter (June 16th, 1921) elaborate reasons are given. A petition had been filed on behalf of the United States for condemnation against the Boston, Cape Cod and New York Canal Company, and this was an appeal on behalf of the United States from the judgment of Judge Morton. In this case it must be borne in mind that under the statute the actual cash value of the canal had to be appraised. Evidence had been given by a Professor Johnson as to the probable future revenue based on an increase of the tolls.

The Court at page 886 used the following language:—

"Then, again, the tolls which the Canal Company could charge on the interstate traffic passing through the Canal were subject to Governmental regulations and the opinion of Professor Johnson as to the probable future revenue based on an increase of tolls was in any aspect nothing more than a mere guess."

This case is also of value in dealing with the roseate views expressed by counsel for the Grand Trunk as to the future. In the head note on page 877 under Section 3, Evidence, it is said:—

"Future earnings of canal not proper subject of opinion evidence.

"In a suit by the United States for condemnation of a canal used for interstate traffic, the probable future tonnage of the canal and the additional revenue to be derived in view of such increased tonnage, held not a proper subject for opinion evidence."

And in the Reasons for Judgment the following language is used on page 886:—

"Tested by this rule, was the opinion of Professor Johnson as to the probable future tonnage of the Canal and the additional revenue to be derived in view of such increased tonnage a proper subject of opinion evidence? We think it was not. It seems to us that the jury might well be supposed to be able to determine the future increased tonnage of the Canal from a statement of the facts upon which the witness might found his own opinion. In this case it could be shown what the tonnage passing through the Canal was at the time of the taking, and the increase in the tonnage that had taken place from the time the Canal was opened to the time of taking. It could also be shown what the tonnage going around the Cape was at the time of taking, and what the increase was over a reasonable period antedating that time, and, from this and other competent evidence bearing on the question, we think the jury could form a correct judgment of the probable future increase on the tonnage through the Canal without the opinion of an expert."

I agree with Mr. Lafleur's statement of the law laid down in the Cedar Rapids case, 1914 Appeal Cases p. 576 (p. 7036 of the Record): "For the present purpose it may be sufficient to state two brief propositions: First, the value to be paid for is the value to the owner as it existed at the time of the taking; not the value of the taker. Second, the value to the owner consists in all the advantages which the land possesses, present or future, but it is the present value alone of such advantages that falls to be determined. Where therefore the element of value over and above the bare value of the ground itself, commonly spoken of as the 'agricultural' value, consists in the adaptability for a certain undertaking—although 'adaptability' is really a rather unfortunate expression, the value is not a proportionate part of the assumed value of the whole undertaking."

It is the present value alone of such advantages as falls to be determined. The stocks are acquired as of May, 1920. The value must be ascertained as of that date. The potential value would be reflected—to use a happy expression of Sir Thomas White—in the value as of May, 1920.

In the case of land, with a market value ascertained, the potential value would form part of the market value, and no difficulty arises. In the case of these stocks, there is no market value. If we were to look ahead—which I do not think would be proper—it will be seen that notwithstanding the increased rates for a portion of the year there was a deficit of earnings, outstanding, of about $11,000,000 in 1920. It is argued that working expenditure would be lessened. If so, the rates allowed will likely be lowered. It is impossible to forecast what may take place. In dealing with the questions of potential value certain facts must be carefully kept in mind.

The value of these four classes of stock has to be ascertained as of the month of May, 1920, the date of the appointment of the Committee of Managament.

Any potential value that can be attributed to these stocks must be ascertained as if the Government had not come to the relief of the railway. After the Government entered into the agreement and the Committee of Management was appointed the policy of the management altered; opposition of competing lines would cease, etc.

If therefore the value of these four classes of stock, including their potential value, is to be ascertained on the basis of the Grand Trunk System continuing to operate as theretofore, could any sane business man with a knowledge of the facts, come to any conclusion different from that come to by Mr. Chamberlin that a crash was inevitable, and insolvency and receivership the sequel, and would there be any reasonable chance of these four classes of stockholders ever receiving a cent on their investments? I think not.

By the agreement in question of the 8th of March, 1920, what the Grand Trunk Railway Company of Canada were agreeing to convey, and what His Majesty the King was purchasing, was the entire System, necessarily as a going concern. The

Crown has assumed obligations amounting to a very large sum of money. The earning of a sufficient amount to pay the interest on, and subsequently the principal of these obligations, depends upon the continued operation of the System as a going concern.

The schedule set out in detail the various properties comprising this System.

The first clause of the Agreement reads as follows:—

> "1. Statement of Control.—The Grand Trunk represents that the companies, properties and interests comprised in the Grand Trunk Railway System are correctly and fully set forth in the first schedule to this Agreement, and that it has in such schedule correctly and fully shown how the various companies and their undertakings are controlled by the Grand Trunk, whether by stock ownership and to what extent, and whether by leases, agreements or otherwise, distinguishing in these the direct ownership and control by the Grand Trunk from the indirect ownership and control through companies included in the System."

Clause 4 provides for the appointment of the Committee of Management of the Grand Trunk System.

Clause 10, headed, "Undisclosed Liabilities" is also important in this connection.

Clause 17 as to the "Superannuation and Pension Funds" is also important, indicating a continued operation of the System.

To my mind it is impossible to reasonably contend that "reconstruction value" can have any bearing on the matters to be determined by the Board. At the time of the Agreement all the properties mentioned in the schedules formed part of and were operated as a part of the System, and were passed to the Crown as an operating System, and no part of these properties has been severed from the System or any attempt made to sell them separately. If hereafter the Crown adopts the view that certain properties might be disassociated from the System and sold, and the assent of those having charges, and the necessary authority obtained, it is something these shareholders have no concern with.

I have given the best consideration I am capable of giving to the important questions submitted for our consideration and am of the opinion that our Award should be that there is no value in any of the four classes of stocks.

If equitable or moral considerations are to be considered, those who control the public funds must deal with the question, not the Board.

REASONS FOR AWARD

(BY THE RT. HON. SIR THOMAS WHITE, K.C.M.G., P.C.)

In the matter of the Arbitration under the Agreement dated the eighth day of March, 1920, between His Majesty the King and the Grand Trunk Railway Company of Canada, confirmed by Act of Parliament, Chapter 13, 10-11, George V.

The reference to arbitration herein arises under and by virtue of an Agreement dated the eighth day of March, 1920, between the Government of Canada (hereinafter called "the Government") and the Grand Trunk Railway Company of Canada (hereinafter called "the Grand Trunk"), ratified and confirmed by an Act of the Parliament of Canada assented to on the eleventh day of May, 1920.

The purpose of the Agreement was to provide for the acquisition by the Government, upon the terms set out in the Agreement, of the "entire capital stock of the Grand Trunk except the four per cent guaranteed stock of the Grand Trunk amounting to £12,500,000." As part consideration for such acquisition the Government agreed to guarantee the payment of:—

(*a*) Dividends payable half yearly at four per cent per annum upon the said four per cent guaranteed stock;

(*b*) The interest upon outstanding debenture stock of the Grand Trunk as and when payable in accordance with the terms thereof, consisting, as stated in the Agreement, of the following:—

Five per cent Grand Trunk debenture stocks..	£ 4,270,375
Five per cent Great Western debenture stocks..	2,723,080
Four per cent Grand Trunk debenture stocks..	24,624,455
Four per cent Northern debenture stocks..	308,215
Total..	£31,926,125

It was provided that the above-mentioned guarantees should be signed on behalf of the Government, and, forthwith, after the appointment of the Committee of Management referred to in the Agreement, should be deposited with the High Commissioner for Canada in London, England, "for the benefit and information of all parties concerned," and that concurrently with the deposit of the guarantees the voting powers at meetings of shareholders of the Grand Trunk, vested in or exercisable by the holders of the guaranteed stock and the debenture stocks, should cease and determine absolutely. The Committee of Management was formed on May 21, 1920.

The capital stock (other than the guaranteed stock) which was to be acquired by the Government (and is hereinafter referred to as the preference and common stock) is described in the Agreement as follows:—

First preference stock, five per cent..	£ 3,420,000
Second preference stock, five per cent..	2,530,000
Third preference stock, four per cent..	7,168,055
Ordinary or common stock..	23,955,437
	£37,073,492

With reference to the price to be paid by the Government for these stocks, the Agreement expressly provides:—

> "The value, if any, to the holders thereof of the preference and common stock shall be determined by a Board of three arbitrators."

By section 11 of the Agreement a maximum limit is placed upon the amount which may be determined by the arbitrators as the value of these stocks. It is expressly stipulated that the fixing of this limit shall not be taken by the arbitrators as "any admission or indication that the value to be determined is the amount so fixed or any other amount."

Upon the value of the preference and common stock being finally determined, provision is made for payment to the holders thereof through an issue to them of non-voting four per cent fully paid capital stock of the Grand Trunk, upon which payment of dividends at the rate of four per cent per annum, payable half-yearly from the date of the appointment of the Committee of Management above referred to, is to be guaranteed by the Government.

Sections 12 and 13 of the Agreement set forth particulars as to this new guaranteed stock, its distribution to the holders of the preference and common stock which is being acquired by the Government, and as to the transfer of the said preference and common stock to the Government.

From the foregoing it would appear that the date as of which the value of the preference and common stock should be determined was the date of the appointment of the Committee of Management. Counsel for the parties were in accord as to this. The question to be determined is, therefore, "the value of the preference and common stock" to the holders thereof as of May, 1920.

It is to be observed that not all the capital stock of the Grand Trunk is the subject of the submission to arbitration. The £12,500,000 of "guaranteed" stock is not included. Furthermore, the existing debenture stocks aggregating £31,926,125 possessed certain voting powers which, with those pertaining to the guaranteed stock, have ceased and determined since the deposit of the guarantees of the Government in respect of these stocks.

The various subsidiary companies controlled by the Grand Trunk through stock ownership or lease, and also those companies controlled in turn by such subsidiaries, are set out in the first schedule of the Agreement. There are more than seventy in all of these companies which, with the parent Company, the Grand Trunk Railway Company of Canada, are designated in the Agreement as the Grand Trunk System. In presenting its case before the Board, counsel for the Grand Trunk used the expression "Grand Trunk System" as not including the Grand Trunk Pacific Railway Company and its subsidiaries and the Central Vermont Railway Company and its subsidiaries. They did, however, submit evidence as to the condition, earnings, and prospects of both these Companies and their subsidiaries. With respect to the entire System (as designated in the Agreement, including the Grand Trunk Pacific and Central Vermont Railway Companies and their subsidiaries), there was presented evidence covering in great detail and particularity its extent, alleged advantages and defects, condition of road-bed, terminals, plant, equipment and rolling stock and other property, its past, present and estimated future revenues and expenditures, its fixed charges, and the indirect or contingent liability of the Grand Trunk in respect of its guarantees of securities of the Grand Trunk Pacific and Central Vermont Railway Companies. The volume and character of business transacted, the outlook for future business, present and prospective rates and earnings were all made the subject of exhaustive evidence and argument before the Board.

With regard to the Grand Trunk Pacific Railway Company, all of whose issued capital stock is held by the Grand Trunk, counsel for the latter took the position that, as the stock was fully paid, the Grand Trunk was liable in respect of the Grand Trunk Pacific Railway Company (and its subsidiaries) only to the extent of its guarantees of that Company's bonds and debentures as that liability might appear, and subject, of course, to the ability of the Grand Trunk Pacific to meet its obligations in respect thereof. This appears to me to be the strictly legal view of the situation as between these two Companies, and I have adopted it as correct for the purposes of this finding.

As to the Central Vermont Railway Company and its subsidiaries, counsel for the Grand Trunk urged that deficits in the operation of these should not be taken into account in estimating the value of the stock of the Grand Trunk. The reason put forward in support of this contention is the fact that the Grand Trunk owns only seventy per cent of the stock of the Central Vermont Railway Company, which is a corporation separate and distinct from the Grand Trunk. As opposed to this view, it was contended that as important traffic originates upon the Central Vermont Railway, and as it has been operated as part of the Grand Trunk System, the financial results of such operation should be included in the accounts of the system for the purposes of evidence as to net earnings which should be taken into consideration by the arbitrators.

During the proceedings exception was taken by counsel for the Government to certain classes of evidence tendered by the Grand Trunk counsel, and judgment upon the points in issue was given by the Board. This may now be briefly referred to. The first exception taken related to evidence tendered as to the cost of locomotives owned by the Grand Trunk and employed in the operation of its system. The question of the admissibility of this evidence necessarily raised the larger question as to the admissibility of evidence as to the reproduction or replacement cost, or so-called physical value, of the right-of-way, terminals, rolling stock,

and other tangible property exclusively used for railway purposes. The judgment of the Board as to the question of evidence involved was rendered on February 7, 1921, a majority holding that for the purposes of this inquiry evidence as to reproduction or replacement cost, or so-called physical value, was valueless for the purpose of ascertaining the value of the preference and common stock of the Grand Trunk and therefore inadmissible. By the same judgments it was declared that the essential fact to be ascertained was the earning power, actual and potential, of the system and that all evidence bearing upon this was relevant and useful. With reference to this decision it may be observed that it related to property needed for railway purposes, which it was agreed by counsel for both parties could not be sold piecemeal and which it was not suggested should be dealt with in any way save as part of a going railway undertaking. It was pointed out in the judgments of the majority of the Board that no connection could be established between such valuation of the railway property of the Grand Trunk System and traffic rates likely to be established in Canada or United States.

The principal cases cited in support of the objection of counsel for the Government to this class of evidence were:—

Great Central Railway Company
vs.
The Banbury Union
1909 Appeal Cases, page 78.

London County Council
vs.
London Street Tramways Company
2 Queen's Bench Division L.R. 1894, page 189 et seq.

Dewsbury and Heckmondwike Waterworks Board
vs.
Assessment Committee of Penistone Union
16 Queen's Bench Division, page 596.

Since the judgments of February 7 were delivered a decision has been rendered in the Appellate Division of the Supreme Court of Ontario which has a close bearing upon the point in issue. The case was that of The Cobourg and Grafton Road Company *vs.* The Province of Ontario. In this case the toll road in question was taken by the Government of Ontario under the compulsory powers conferred by the Provincial Highway Act, and the question was as to the compensation to be made to the owner of the road. The Ontario Railway and Municipal Board, in giving reasons for its award, which was based upon a capitalization of the earning capacity of the road, rejected the principle of replacement value. Following is a quotation from the opinion of the Board:—

> "The value of the land forming the highway cannot be estimated on the basis of the value of adjoining lands, since its only possible use is as a highway and its only productive value as such arises from the fact that used as a highway certain revenues may be derived in the form of tolls. These observations apply in a greater or less degree to the other tangible property and works which go to constitute the road and which are enumerated in the claimants' summary, viz., cut and fill, ditching, culverts, bridges, road-bed, and toll gates."

Against the award of the Ontario Railway and Municipal Board an appeal was taken by the claimant. While differing as to the rate of interest which should be employed in the capitalization of the earnings of the road, the principle of valuation adopted by the Board was affirmed by the Appellate Division of the Supreme Court of Ontario.

Later during the proceedings, counsel for the Grand Trunk tendered evidence as to the valuation of certain buildings. These included elevators, freight and passenger stations, and hotels. The character of the evidence sought to be adduced is shown by the following extract from page 3765 of the record:—

"Q. You have made, I believe, an appraisal and valuation of the buildings I have just mentioned?

"A. Yes, a complete survey of the quantities and valuation.

"Mr. LAFLEUR: I am tendering this evidence like the other evidence we have tendered as to valuation.

"The CHAIRMAN: If it is objected to there will be the same ruling.

"Mr. TILLEY: You have built it up on the basis of what it would cost to build to-day?

"A. As at January 1, 1920.

"Q. What it would cost to build as at January 1, 1920?

"A. Yes.

"Q. Actual cost?

"A. Actual cost.

"Mr. TILLEY: Then I object to the evidence.

"The CHAIRMAN: It is ruled out.

"Hon. Mr. TAFT: In order to avoid any trouble just note my dissent.

"Mr. LAFLEUR: I point out in regard to the Fort Garry Hotel, Winnipeg, and the Macdonald Hotel, Edmonton, that these two buildings belong to the Grand Trunk Pacific Development Company, and that the Grand Trunk has a claim of about $11,000,000 against that Company for advances of various kinds. I do not know whether that will affect the view of the Board as to our right to show what is the value of the physical assets of the Grand Trunk Pacific Development Company.

"Mr. TILLEY: My submission is you are not proving the value of the assets of the Grand Trunk Pacific Development Company. If the witness will give evidence as to what the two hotels would sell for now in the market, and the suggestion is made that that is their highest value, then I would admit the evidence."

Formal tender was subsequently made by counsel for the Grand Trunk of evidence of the reproduction cost of the physical assets of the subsidiary railway, tunnel, terminal, dock, telegraph, steamship, development and other companies.

The nature of the evidence thus tendered is indicated by the following extract from the testimony of Mr. Berry at page 3223 of the official report of the proceedings:—

"Mr. BUTLER: You used the expression in your testimony this morning 'sales value' and sometimes 'selling value.' By that did you mean the cost of production or the cost of reproduction less depreciation?

"A. I mean cost of reproduction.

"Q. Without considering depreciation?

"A. Without considering depreciation.

"Q. In your answers made to me just now I understood you to say that by 'sales value' as used in your testimony you mean the reproduction cost?

"A. That is what I would sell it for.

"Q. And that is the meaning you give to 'sales value' as used by you in your testimony?

"A. Yes.

All this evidence like that of similar character tendered earlier was ruled out as inadmissible. Personally, I am unable to see that it could be of any value in enabling the Board to come to a conclusion as to the question in issue, viz., the value of the preference and common stock of the Grand Trunk. It was not suggested by

counsel for the Grand Trunk that the System as it stands should be disintegrated and its assets or any of them now actually in use turned into cash, or that its late Directors had ever had such policy in contemplation. Presumably, the use to which the physical assets of the various companies comprised in the System have been put has been that which was deemed best in the interests of the shareholders. Aside from this, the cases cited above are, I think, authority for the statement that reproduction cost of any building, work, or undertaking is not evidence of real value which depends upon the actual and potential earning capacity of the thing valued; in other words, what can be made out of it by way of actual return. Reproduction cost of a building or work may be of value in some cases as showing the maximum beyond which value should not go, but it affords no guidance as to actual value.

In the case of unproductive assets such as the land grants of the Grand Trunk Pacific Railway Company, evidence was admitted of selling value. Testimony as to value of the coal properties of the System was also received.

With regard to the question of the relevancy of evidence as to reproduction cost whether of property which can be used exclusively for railway purposes or which although used in connection with the System may be sold for what it will fetch, I adopt as the best criterion for establishing value the language of Lord Lindley in the case of London County Council vs. London Street Tramways Company, 2 Queen's Bench Division L.R. 1894, at page 206:—

> "Cost price is well known to be no real criterion of the value of an outlay on land. What the result of the outlay will fetch is often much more and often much less than the outlay which has produced it."

And from the Judgment of Lord Justice A. L. Smith at page 219:—

> "There can be no doubt that in an ordinary case where an undertaking such as the present is to be sold and paid for, its present, that is its true value, is in practice arrived at by capitalizing its rental value. I should say that this is the true way of arriving at its present value."

Benefit to the preference and common shareholders of the Grand Trunk could come only through the declaration of dividends from net earnings or from the sale of the assets of their Company for a sum in excess of its liabilities. Any purchaser buying such assets would, as to price which he would be willing to pay, have regard to what he would be likely to make in the way of annual return from his purchase. From whatever angle the question is viewed net earnings, actual and potential, seem to be the essential factor to be determined.

As having some bearing upon the matter of the value of the shares to be valued, records of quotations and sales of the preference and common stock on the London Stock Exchange over a considerable period of years were placed in evidence. In this connection it is to be noted that the agreement expressly prohibits the Board from taking into consideration the fluctuation in the market prices or quotations of these stocks caused by the negotiation of the parties, the passing of the Act or the execution of the agreement. Aside from this provision, however, it does not appear to me that stock market quotations or sales of individual lots of shares are of value in endeavouring to determine the true value of the large body of stock which we are called upon to appraise. Counsel for both parties were agreed that the question is not as to the value to any individual holder of his shares but as to the value of the shares as a collective whole or aggregate. The case of Peek vs. Derry, 37 Chancery Division, cited by counsel for the Government, clearly lays down the principle that it is real and intrinsic, not stock market quotation or value, which should be taken into account. In view of the foregoing it appears to me that the question at issue is what is the real value of the preference and common shares and that this real value depends upon the present and future earning power of the company.

In seeking to ascertain the earning capacity of the Grand Trunk we should, I think, consider all evidence relating to the earnings of the company as of the period

of the acquisition of the shares (May, 1920), as well as the earnings since that date and down to the present time. So far as possible, endeavour should be made to estimate probable future earnings, and for this purpose the earnings of the Grand Trunk System in the past, and especially before the abnormal period of the war, may be specially considered. All evidence as to physical condition of the system and its proper maintenance, the advantages or disadvantages of the location of its lines, volume of business, traffic rates, operating costs, and fixed charges must be given its due weight in its bearing upon the question of earning capacity, and there must also be taken into account the contingent annual liability upon guarantees of the Grand Trunk in respect of securities of other companies.

With respect to the net earnings of the Grand Trunk System (as defined by counsel for the company) for the past ten years, evidence of a minute and elaborate character was presented to the Board on behalf of both parties. A matter very much in controversy was as to whether, in the accounts disclosed by the books of the system, adequate allowance had been made for annual maintenance and whether, in addition, reserves should not have been created against depreciation of buildings, rolling stock, and other equipment. These are, of course, very vital matters, because if proper allowance be not made for current maintenance requirements and for depreciation in the annual profit and loss accounts of the system the true earning power in any year is not disclosed.

It was clearly proven in the course of the inquiry that the reports of earnings shown in the annual statements to the shareholders and to the Railway Department for many years past were inaccurate and misleading. For the year 1913 the published earnings were considerably larger than those shown by the books themselves. Later, during the years 1915, 1916, and 1917, a substantial portion of the earnings was concealed by the creation of an "inside reserve" account. Subsequently, this account was availed of to show during subsequent years larger earnings than were actually made. It is not necessary to deal here with the motives which actuated this policy on the part of the Board of Directors. It will be sufficient to say that these motives were fully revealed in the evidence and that they were not directly connected with the purpose of creating adequate reserves against deferred maintenance or depreciation. To the extent that reserves were so created thy are, of course, to be taken into account in estimating earnings of the years over which they were built up.

Numerous exhibits showing in tabulated detail the results of the operation of the Grand Trunk System since 1910 were placed in evidence on behalf of both parties during the hearings. Out of this mass of testimony there finally emerged a clear and concise statement (Exhibt 470) prepared from the books of the company by its auditor, Mr. McLaren, showing the actual operating results of the Grand Trunk Railway Company of Canada by years irrespective of "inside reserve" or other hidden accounts. I am dealing now with the results of operation of the system as defined and limited by counsel for the Grand Trunk and not inclusive of the Grand Trunk Pacific or Central Vermont systems. The final tables of earnings presented by Mr. McLaren, in his restatement of accounts should, I think, be taken as records correctly compiled from the books of the company. Their accuracy was not in fact disputed by the other accountants who gave testimony before the Board. The accounts of the Grand Trunk System as restated by Mr. McLaren show the following annual results after payment of all operating expenses and fixed charges:—

Year	Surplus
1910	$ 3,617,876
1911	4,188,783
1912	4,482,448
1913	2,874,592
1914	2,014,176
1915	5,755,730
1916	11,319,341
1917	3,402,540
1918	3,872,344 Deficit
1919	6,488,918 Deficit

To these figures must be added the following sums representing profits of subsidiary companies not taken into the accounts of the parent company:—

Year	
1910	$ 83,360
1911	267,865
1912	249,196
1913	484,648
1914	71,132
1915	245,924
1916	732,834
1917	270,540
1918	492,588
1919	166,932

The deficit for 1920 exceeded six and a half million dollars. Including "Federal control" accounts it exceeded ten million dollars.

The restated accounts of the Grand Trunk Pacific and Central Vermont Railway systems which are not included in the above statement show in the aggregate exceedingly heavy deficits for the period in question. I shall refer to them more particularly later on.

From the foregoing it will appear that down to December 31st, 1917, the Grand Trunk System, according to its books of account, was making profits of varying amounts annually available for dividends, while from the end of 1917 down to December, 1920, very heavy annual deficits were incurred. Notwithstanding the increases in traffic rates which were authorized last autumn, the returns for the present year disclose a heavy deficit. The evidence of Mr. McLaren, Auditor of the Grand Trunk, shows the net results of the operation of the system (as defined by Grand Trunk counsel) for the period from January 1st, 1920, to the end of April, 1921. The net loss for this period was over five million dollars. As against the increased traffic rates to which reference has been made, the higher wage scale which went into effect early last year, and the decrease in traffic owing to trade depression following the war, have proven more than an offset.

MAINTENANCE

A question very much in controversy during the proceedings was as to whether the Grand Trunk management had made from year to year proper provision for maintenance of way, structures, equipment, and plant. Counsel for Grand Trunk contended that with the exception of the latter years of the war period, when labour and material were difficult to obtain and during which reserves against deferred maintenance were built up, the System had been maintained to the extent necessary for maximum operating efficiency. Against this view counsel for the Government claimed that for a long period of years the System had been steadily deteriorating by reason of failure to provide out of annual earnings for adequate maintenance and depreciation of equipment and other property, and that in consequence of such failure the actual net earnings of the Company in years for which profits were shown were materially less while the deficits for years of loss in operation were in reality greater than appeared from the books of the Company.

The evidence adduced on this point conclusively established, in my judgment, the essential soundness of the contentions in this regard of the Government.

It was admitted by the Grand Trunk counsel that no special fund had been created against depreciation of rolling stock, buildings, plant, and other equipment of the Canadian part of the System. By Canadian railway law no such fund is required to be maintained. With respect to the American lines forming part of the System, adequate provision against depreciation is required to be made and the Grand Trunk has observed this requirement in the accounts of its subsidiary railway companies operating in the United States. Aside from legal requirements, it seems clear that net earnings cannot be accurately determined for any year without setting aside such a sum as in accordance with the practice of well-managed railway systems will

serve as a setoff against the year's depreciation. The authorities are quite clear as to this. See Bryce on "Ultra Vires," 3rd edition, at page 340, as to the meaning of "profits"; also the statement of Jessel, M.R., in Davison vs. Gillies, 16 Chancery Division 344.

What amount should have been set aside yearly for depreciation the evidence does not help us to determine. It is clear, however, that a considerable annual provision in this respect should have been made in respect of the Canadian portion of the Grand Trunk System before net earnings were assumed to have been made.

With regard to annual maintenance the evidence showed a much more serious state of affairs. The System, at the time of its taking over by the Committee of Management in May, 1920, was confronted with an exceedingly heavy programme of expenditure for deferred maintenance and capital construction. During the last two years of the war a good deal of work of this character had been suspended, but in my view of the evidence a considerable part represented maintenance and construction which should have been done in the pre-war and early war period; in fact, the System over the past ten years and longer does not appear to have been adequately maintained, with the result of gradual deterioration in physical condition and increasing accumulation of deferred maintenance requirements. During the year 1920, after the Committee of Management was appointed, very heavy expenditures were made with the purpose of overtaking work of this character, with the result that the greater part of the System was put in a condition suitable for operating efficiency. Exhibit 457 shows that for the years 1911 to 1917 inclusive an average sum of about six million dollars per annum was expended for maintenance of ways and structures. For 1918 the expenditure under this heading was $11,600,000, for 1919, $17,000,000, and for 1920, $18,100,000. Making due allowance for increased costs of materials and wages, these figures indicate the extent to which maintenance had become deferred. The finding with respect to the matter of annual maintenance must, I think, be that inadequate provision was made for it during a long period of years past and that consequently the net operating earnings of the Company as shown by its books did not truly reflect the real condition of affairs. The letter of Mr. Kelley, the Chief Engineer and new President of the Company, dated March 5, 1917, shows clearly the very serious condition of the System with respect to the matter of deferred maintenance, which he estimated at over $21,000,000. The so-called "inside reserves" created by the Company prior to this date were quite inadequate to meet the deferred maintenance requirements of that period.

After all the heavy expenditure made upon the System from its taking over in May, 1920, until the end of that year, deferred maintenance to the amount of many millions still remained to be done in respect of bridges, trestles, culverts, crossings, ties, track, rails, ballast, track-laying and surfacing, fences, docks, and wharves. Evidence adduced by the Government shows estimated extraordinary maintenance and capital requirements in respect of the Grand Trunk System for the years 1921-1925 inclusive as follows:—

Extraordinary maintenance	$ 8,924,318
Remunerative capital	4,780,087
Non-remunerative capital	43,908,612
Total capital	48,688,699
Total capital and maintenance	57,613,017

The estimate for 1920-1925 according to testimony on the part of the Government was as follows:—

Extraordinary and deferred maintenance	$18,889,343
Remunerative capital	6,887,184
Non-remunerative capital	43,908,612
Total capital	50,795,796
Total capital and maintenance	69,685,139

A large part of the item for non-remunerative capital consists of estimated expenditures for grade separations in Montreal, Toronto, Detroit, Chicago, and other

cities, which must be carried out in the not-distant future. Making the most liberal allowance for all that was adduced against these figures, it is clear that the expenditures with which the Grand Trunk was confronted in May of 1920 for deferred maintenance and capital construction were of most serious amount and of the gravest financial consequence. Mr. Kelley's letter referred to above indicated necessary capital expenditure (over and above deferred maintenance) of an amount exceeding thirty million dollars, the principal item being for rolling stock and shop machinery. The above figures as to deferred maintenance and capital expenditures relate only to the Grand Trunk System exclusive of the Central Vermont and Grand Trunk Pacific systems. The condition of the former as to these items was shown to be quite serious as to deferred maintenance, while that of the Grand Trunk Pacific was of the gravest character.

With respect to the revenues of the Grand Trunk as shown in its accounts, it was proven in cross-examination that large sums were included representing charges for interest upon advances or loans made to certain of its subsidiaries. Some of these advances are quite large, as for example ten million dollars to the Grand Trunk Pacific Development Company and eleven millions to the Grand Trunk Pacific Branch Lines Company. It is clear from the evidence that some of these charges aggregating very large amounts do not represent collectible indebtedness. In so far as such uncollectible indebtedness entered into the accounts of the company as part of its revenues, the annual statements of net earnings were inaccurate and misleading.

In view of the foregoing, it is plain that without taking into account the contingent liability of the Grand Trunk Railway Company or Canada in respect to securities of the Grand Trunk Pacific Railway Company the financial position of the former was most precarious at the time of the appointment of the Committee of Management in May, 1920, which is the date as of which the preference and common shares are to be valued. The years 1918, 1919, and 1920 show deficits of $3,872,344, $6,488,918, and $6,719,362 respectively. The results for the year 1921 show to date a like heavy deficit. Deferred maintenance requirements were large and pressing. In addition, there was confronting the company the program of extraordinary maintenance and capital construction to which reference has been made. Exhibit 474 filed by counsel for the Government shows estimated net cash requirements of the Grand Trunk System for the fifteen months ended March 31, 1922, to be nearly ninety million dollars. Whether, in the financial conditions prevailing in 1920 and since, the company, even if had been relieved of its obligations in respect of the Grand Trunk Pacific, could have met its own situation unassisted by Government aid in the way of direct loans or guarantee of its securities, can only be made the subject of conjecture. My view upon the evidence is that the credit of the company would have proven unequal to the emergency and that a receivership would have been inevitable if not in 1920 then in the next year or two. I do not believe that with such yearly deficits the company could have long continued to float its securities to the amount necessary to meet them and to provide for its heavy program of deferred maintenance and capital requirements. This much, however, is clear. There would have been no dividends available for shareholders in 1920, 1921, nor, so far as can be seen, for many years to come. When to this situation is added the burden of the Grand Trunk's guaranteed liability in respect of the Grand Trunk Pacific Railway Company it will be clear how impossible it would have been for the Grand Trunk Railway Company of Canada to continue as a solvent going concern. The extent of this contingent liability is shown by Exhibit 319 as follows:—

	Principal	Annual Interest
Guarantee on funded debt..	$54,889,000	$2,292,760
Contingent guarantee of interest on 4 per cent debenture stock..	.....	1,395,170
Total..		$3,687,930

The Grand Trunk is liable upon its guarantee of both principal and interest of the funded debt. Its guarantee of the payment of interest upon the 4 per cent debenture stock is out of net earnings of the Grand Trunk in each year after deducting working expenses and certain interest charges. If, in any year after payment of such working expenses and other charges, any net earnings remain over, the liability of the Grand Trunk upon such guarantee for the year in question would have to be met in priority to any dividend distribution. The statements presented to the Board show clearly the grave financial condition of the Grand Trunk Pacific Railway now in liquidation. This company is hopelessly bankrupt with no prospect now or for years to come of earning even its operating expenses, much less its fixed charges. The contingent liability of the Grand Trunk in respect of the securities mentioned must be regarded as a continuing charge against the earnings and credit of the Grand Trunk until full payment is made in accordance with the terms of the guarantees. It is quite clear that nothing by way of relief can come from the earnings of the Grand Trunk Pacific Railway undertaking. The liability thus imposed upon the Grand Trunk is so serious that it is desirable to carefully describe and analyze the condition and prospects of this company in order to show the facts upon which these conclusions are founded. It would be difficult to imagine a more misconceived project than that to which the Grand Trunk committed its credit in this unfortunate enterprise. For nearly half the distance of nine hundred miles westward from Winnipeg the main line was constructed close to and between the lines of the Canadian Pacific and Canadian Northern Railway Companies. For the remaining thousand miles to Prince Rupert the main line traverses for the most part a difficult country, largely mountainous, whose development for the purpose of furnishing local traffic must await settlement and business enterprise, and terminates at Prince Rupert, a port as yet without any considerable trans-Pacific or other external trade. For two hundred miles or more this section of the main line parallels the line of the Canadian Northern Railway Company so closely that part of the rails of each has been taken up and both railways, now under Government control, use the same tracks. When it is considered that the Grand Trunk Pacific was built for the whole distance of eighteen hundred miles from Winnipeg to Prince Rupert at a very high standard of construction and at enormous cost, particularly in the mountain section, the magnitude of the mistake in going forward with this enterprise is apparent. The branch lines in the Prairie Provinces are wholly inadequate as feeders to the main line, providing a strikingly unfavourable contrast to the number and mileage of the branch lines of both the Canadian Pacific and Canadian Northern Railway Companies in this great traffic-producing area. Part of the Grand Trunk Pacific branch line system is badly situated in territory tributary to its rivals. As a result of the location of its main line and its want of efficient feeders, the Grand Trunk Pacific Railway Company will not share proportionately with its rivals in the traffic which may be expected with the progressive settlement and development of the Prairie Provinces. As to the lease of the Eastern Division of the National Transcontinental Railway which the Grand Trunk Pacific Company was to take after the completion of the Division, I eliminate it from consideration. It was never executed, and as the Government has been operating the Eastern Division the agreement providing for the lease may be regarded as having lapsed and as not imposing further liability upon the Grand Trunk Pacific Railway Company. The financial position of this company since its system was declared open for operation at the close of 1915 may be briefly shown as follows:—

Year	Deficits
1916	$ 1,358,435
1917	5,300,512
1918	6,318,594
1919	11,940,032
1920	23,141,016

These are the deficits after taking into account operating expenses and fixed charges. They with the other evidence as to financial condition show conclusively that the company is bankrupt and that Receivership was unavoidable.

From this it will be seen that the company is quite incapable of meeting its liability upon its issued securities guaranteed by the Grand Trunk Railway Company of Canada. It should be further pointed out that the above figures which are compiled from the books of the company cannot be regarded as accurately reflecting the earnings of the company because of the failure to provide any reserves against maintenance or depreciation. The maintenance charges with which the Grand Trunk Pacific will be confronted during the next ten years will be exceedingly heavy reflecting as they must the wear and tear of the last five years of operation, during which, as construction was recent, the amount of expenditure for maintenance was small. The evidence shows that about twenty million dollars is now required to meet deferred and extraordinary maintenance.

It would be difficult to overstate the serious character of the obligation imposed upon the Grand Trunk by the failure of the Grand Trunk Pacific enterprise to realize the hopes built upon it at its inception. It is quite clear that, whether the war had occurred or not, it would have been utterly impossible for the Grand Trunk to carry the burden of its liability in respect of guarantees upon Grand Trunk Pacific securities. A glance at the earnings of the Grand Trunk for the past ten years makes this evident. That the position was fully understood and appreciated by the management of the Grand Trunk is shown by the letter of the Chairman of the Board, Sir Alfred Smithers, in December, 1915, to Sir Robert Borden, Prime Minister of Canada. The Grand Trunk Pacific Railway undertaking was then about to be taken out of its construction stage. The Chairman in this letter pointed out the situation with which the Grand Trunk would be immediately confronted, and suggested as the only solution that the Government should take over the Grand Trunk Pacific System as from January 1, 1916, relieving the Grand Trunk of all its liabilities in respect thereof and repaying to the Grand Trunk all advances made to the Grand Trunk Pacific Railway Company, the Grand Trunk Pacific Development Company, and its subsidiary companies. Referring to these liabilities, Sir Alfred says: "Under present circumstances it is quite impossible for the Grand Trunk Railway Company to meet the extra liabilities arising from the Grand Trunk Pacific Railway Company." And again: "We have done our utmost to meet the heavy financing which has been necessary and the difficulty of which has been immensely increased by the disastrous war conditions. We are now 'at the end of our tether' with regard to Grand Trunk Pacific financing." The letter of Mr. Chamberlin, President of the Grand Trunk, addressed to the Commission appointed in 1916 to examine into and report upon the Canadian railway situation, is even stronger in its statement of the gravity of the Grand Trunk's position. This letter is dated January 30, 1917, and is filed as Exhibit 458. To the question as to the effect on the Grand Trunk should the operation of the Grand Trunk Pacific be left as it was and the former not relieved from its guarantees, Mr. Chamberlin said: "There can be only one answer; it would mean a Receivership for the Grand Trunk Company carrying with it the destruction of its credit for some time to come and the impairment of the credit of the Dominion."

No other view can, I think, be reasonably taken upon the evidence presented to the Board than that in May, 1920, had the agreement providing for the acquisition of the preference and common shares of the Grand Trunk and for financial assistance by the Government not been entered into, the Grand Trunk Railway Company of Canada, struggling with its own deficits and requirements for deferred maintenance and capital construction and burdened with its heavy annual liabilities in respect of Grand Trunk Pacific securities, must inevitably have gone into Receivership.

During the course of the proceedings it was suggested to the Board by counsel for the Grand Trunk that the Grand Trunk had serious cause for complaint against the Government of Canada in respect of the Grand Trunk Pacific undertaking. Particularly was it urged that the Grand Trunk in 1903 desired to build its western system from North Bay (in Northern Ontario) and acted only from compulsion in proceeding with the National Transcontinental project. It was also complained that after the inauguration of the Grand Trunk Pacific undertaking the Government permitted rival railway companies to construct lines in territory which it traversed. The evidence before the Board disclosed no ground for such complaints. No doubt both the Government of the day and the Grand Trunk authorities were gravely mistaken in 1903 as to the cost and future possibilities of the Transcontinental Railway enterprise. But the Grand Trunk was not obligated to proceed with it. The Agreement providing for the construction and financing of the project was entered into by the Grand Trunk acting under no compulsion. The Grand Trunk Railway Company of Canada was the sole holder of the stock of the Grand Trunk Pacific Railway Company. Any profits from the enterprise would have come into its treasury for the benefit of its shareholders. That high expectations were entertained as to the advantage to be derived by the Grand Trunk from the construction of the National Transcontinental Railway as authorized by Parliament is clear from the optimistic speeches made by the President and General Manager at the meeting of shareholders in 1904, when authorization was given to pledge the credit of the Grand Trunk to the obligations devolving upon it under the Agreement. The evidence shows that the Government not only carried out its financial part of the bargain but during a long course of years afterwards—in fact until the Receivership in 1918—made loans aggregating more than fifty million dollars to the Grand Trunk Pacific Railway Company for the purpose of enabling it to complete its construction and pay its annual deficits. The Agreement for the construction of the Grand Trunk Pacific Railway has been an unfortunate one both for the Government and the Grand Trunk, but it was nevertheless an agreement deliberately entered into by the Grand Trunk in the expectation of gain from a successful project. For the charge that the Government unfairly permitted rival companies to build into territory traversed by the Grand Trunk Pacific there appears not the slightest foundation. On the contrary, the evidence clearly shows that the Grand Trunk Pacific enterprise was launched into territory in the Prairie Provinces already occupied and in process of occupation by the Canadian Pacific and the Canadian Northern Systems, and that, before the Grand Trunk Pacific enterprise was entered upon, express notice in writing had been given to the Grand Trunk by the Canadian Northern Railway Company that it possessed the necessary charter powers and intended to extend its system easterly through Ontario and Quebec and westerly to the Pacific ocean. The Agreement providing for the construction of the Grand Trunk Pacific railway contained no covenant on the part of the Government that no new construction would be authorized by Parliament in the territory traversed by the Grand Trunk Pacific Railway enterprise.

I mention these matters because they appear to have been put forward as raising some equitable claim in favour of the Grand Trunk. It is clear, however, that as no legal claim is involved complaints of this character could not be taken into consideration in these proceedings. The agreement for the construction of the Grand Trunk Pacific undertaking was entered into, the financing therein provided for was carried out, the obligations of the Grand Trunk by way of guarantee upon the securities of the Grand Trunk Pacific Railway Company were incurred and are in effect, and the sole question before the Board is as to the value of the preference and common stock of the Grand Trunk, having regard to all relevant factors, including these obligations, as of May, 1920.

During the course of argument it was suggested by counsel for the Grand Trunk that a sale of the undertaking of the Grand Trunk Pacific might result in a surplus

available in relief of the Grand Trunk in respect of its guarantees. It is clear upon the evidence that the result of no sale, judicial or otherwise, would suffice to produce a sum equal to the charges which have priority over the securities so guaranteed. The guarantees will have to be met according to their terms without hope of abatement from earnings or sale of the Grand Trunk Pacific enterprise.

Apart from its guarantees upon Grand Trunk Pacific securities, the evidence shows that the Grand Trunk is liable upon a guarantee of interest on 4 per cent bonds of the Central Vermont Railway Company to an amount of $13,359,000. Considering the unsatisfactory earnings of the Central Vermont system and its past history, it is impossible to say that no loss will be incurred by the Grand Trunk in respect of this of this guarantee. I do not, however, in this finding, treat this obligation as one upon which loss will be incurred.

Reviewing all the evidence in the case I have reached the following conclusions:—

(1) The actual earning power of the Grand Trunk Railway Company of Canada before, during, and since the war, and, so far as can be estimated, for the future does not justify the assumption that any profits would, from the date of the acquisition by the Government of the preference and common shares, viz., May, 1920, ever have been available for distribution to the holders thereof, after providing for the contingent liability of the company in respect of Grand Trunk Pacific securities guaranteed by the company and dividends upon the "guaranteed stock."

(2) Having regard to its own continuing heavy deficits, the necessity for making provision for deferred and extraordinary maintenance and capital construction, and its heavy liabilities in respect of securities of the Grand Trunk Pacific Railway Company bearing its guarantee, the Grand Trunk Railway Company of Canada, but for the financial support of the Government since May, 1920, must have been forced into a receivership.

Upon these conclusions I find that the preference and common stock of the Grand Trunk Railway Company of Canada has no value. Any question as to compassionate consideration of the shareholders must be for the Government and Parliament of Canada to deal with and not for this Board.

REASONS FOR DISSENT

(BY THE HONOURABLE WILLIAM HOWARD TAFT)

This is a proceeding to determine the value of the First Preference five per cent (5%) stock of the Grand Trunk Railway Company of Canada, amounting in par value to £3,420,000; of the second preference five per cent (5%) stock, amounting to £2,530,000; and of the third preference four per cent (4%) stock, amounting in par value to £7,168,055, and of the common stock of the railway company, amounting in par value to £23,955,437. The proceeding is conducted in accordance with an agreement dated the 8th day of March, 1920, between the Government of Canada and the Grand Trunk Railway Company of Canada, authorized and embodied in enabling and confirming statutes of the Dominion Parliament. The object of the various Acts of Parliament and of the agreement is to transfer to the Government the control of the Grand Trunk Railway of Canada and all the subsidiary corporations over which it exercises control, by reason of ownership of the stock of such companies, or by lease. The names of the companies whose stock thus passes into the control of the Canadian Government are set forth in the agreement and the statute.

As part consideration for the acquisition of the control of the Grand Trunk Company, the Government guarantees the interest upon the present debenture stocks in accordance with their terms, which are as follows:—

Five per cent (5%) Grand Trunk debenture stock..	£ 4,270,375
Five per cent (5%) Great Western debenture stock..	2,723,080
Four per cent (4%) Grand Trunk debenture stock..	24,624,455
Four per cent (4%) Northern debenture stock..	308,215
Total..	£31,926,125

In addition to this, the Government of Canada agrees to issue new stock of the Grand Trunk Company of a par value of £12,500,000 with a guaranty by the Government of four per cent annual dividend thereon, in exchange for an existing issue of four per cent stock of the same par value, guaranteed by the Grand Trunk Company which is non-cumulative but prior in right to the preferred and common stock already described.

Under the statutes creating the Grand Trunk Railway Company, holders of the debenture stocks and the guaranteed stock had certain voting powers, which under the contract are to cease, so that the voting power is to vest solely in the three preference stocks and the common stoc kto be transferred.

The sixth and eighth clauses of chapter 13 of the 10-11 George V, providing for the present arbitration, are as follows:—

"6. *Submission to Arbitration.*—The value, if any, to the holders thereof, of the preference and common stock shall be determined by a Board of three arbitrators, one to be appointed by the Government, one by the Grand Trunk and the third shall be Sir Walter Cassels, Judge of the Exchequer Court of Canada, who shall be Chairman of the Board. Should Sir Walter Cassels die or be unable to act, the said parties shall agree upon another third arbitrator, who shall be either the then Judge of the Exchequer Court of Canada, or one of the Judges of the Supreme Court of Canada, and who shall likewise be Chairman. Should any vacancy occur in the Board of Arbitrators, other than the third arbitrator, the arbitrator to fill the vacancy shall be appointed in the same way as the arbitrator whose seat has become vacant was appointed.

"8. *Making of Award and Appeals.*—The award shall be made by the arbitrators, or a majority of them, within nine months from the appointment of the arbitrators, or within such further time as the Governor-in-Council may approve. The unanimous award of the arbitrators shall be final, but should the award not be unanimous, and should notice of appeal be given by either party to the other within thirty days after the making of the award, an appeal therefrom upon any question of law shall lie to the Supreme Court of Canada, and or to the Judicial Committee of the Privy Council, if leave be granted by the said committee."

The Board has been constituted in accordance with Section 6. After convening in September and October, 1920, the members of the Board were taken over the main line of the Grand Trunk Railway Company from Montreal to Chicago. They then visited the Pacific Coast and viewed the Grand Trunk Pacific Railway, all of whose capital stock is the property of the Grand Trunk Railway, and control of which would therefore pass to the Government under the present proceeding by the acquisition of the Preferred and Common Stock of the Grand Trunk.

On the 1st of February, 1921, the evidence began, and for seventy-three days we had hearings, resulting in the submission of 8,000 typewritten pages of evidence and over 500 Exhibits. The question to be settled is of a class of questions the most difficult ever presented to a tribunal, to wit, to determine the fair value of a great railway System, with all its accessories and subsidiary companies for the purpose of purchase and sale. In substance, the Government of Canada is taking over the

ownership and control of the whole Grand Trunk Railway System, including all its subsidiary railways and other corporations. The Government in effect agrees to assume,

First, the funded obligations of the Grand Trunk Railway of Canada,

Second, to issue four per cent absolute Government obligations of a par value of £12,500,000, with which to take up the present so-called Guaranteed capital stock of that amount which is prior in right of dividends to all other issues of capital stock, but is dependent on earning and non-cumulative, and

Third, to deliver in the same kind of four per cent obligations, to the owners of the subsequent three Preferred issues of stock and the Common Stock, whatever this Board within the maximum limit of $64,166,666.66 shall determine the stock to be worth.

The Grand Trunk Railway Company was organized under a Canadian Charter in 1852. It was the pioneer railway of Canada. It was financed wholly by British capital, and its Board of Directors have always met in London, and there taken corporate action. The present shareholders are and always have been residents of the British Isles. The shares of stock have been placed upon the London Stock Exchange, and have been dealt in as a speculative stock. The stock was fully paid up in cash. The vicissitudes of the company have been such, however, that in 1860 the enterprise seemed likely to go to the wall, but with concessions made by then bondholders, new capital was secured, and the company set upon its feet again. It constructed or acquired, in the province of Ontario, a great many branch lines. Indeed it purchased competing lines, so that its mileage in that province is greater than that of any other railroad. It owns a line from Windsor, opposite Detroit, to Buffalo, and it has two parallel lines from Toronto to Sarnia. Its main line is a double track line from Montreal through Toronto and Hamilton to Sarnia on the St. Clair River, through a tunnel under that River to Port Huron, and thence to Chicago over the lines of the Grand Trunk Western Company of Michigan, of which the Grand Trunk Company owns all the stock. An important double track connection from Hamilton, on the main line between Sarnia and Toronto, to Suspension Bridge and Buffalo, makes a double track railway trunk line from Chicago east and from Montreal and Toronto south to the Niagara Frontier, whence by the Lehigh Valley, with which the Grand Trunk interchanges traffic, it reaches New York. From Montreal east the Grand Trunk has a line to Quebec, and by a line which the Grand Trunk, at the instance of, and with some pecuniary assistance of, the Canadian Government, built, it reaches Portland, Maine. From Montreal south by some of its subsidiaries, including the Vermont Central, it reaches White River Junction, whence through a connection with the Boston and Maine, it reaches Boston. By the same Central Vermont, it passes through Palmer, Massachusetts, and thence to New London, Connecticut, whence a boat line of the Company carries freight to New York. The Harbour at Portland is open the year round, while the harbours at Montreal and Quebec are closed during the winter season. The Grand Trunk, therefore, has a main trunk line from Chicago through Michigan and Canada to the sea at Montreal, at Quebec, at Portland, at Boston, and at New York, the latter by two routes. With its many branch lines in Ontario and in Michigan, the Grand Trunk connects its lines with the Great Lakes at many points, and operates partly water, partly rail routes from east to west. The Grand Trunk has complete or partial ownership of steamship companies, elevator companies, electric lines, subordinate railway lines, bridge companies, terminal companies, and other corporations owning hotel properties used in connection with the railway system.

The Grand Trunk System, as that term is understand in this case, includes the Grand Trunk Company of Canada, the Western lines, i.e., those of the Grand Trunk Western of Michigan, and the New England Lines, i.e., the lines to Portland. The

Grand Trunk System does not include the Vermont Central, which, though largely owned by the Grand Trunk Railway Company of Canada, is run separately. Its accounts are kept separately.

In 1897 Mr. Charles M. Hays was called from the Wabash Railway System to become the President of the Grand Trunk Railway Company of Canada and the System. He found a railroad at that time which was not well equipped, and could not be considered more than a third-class transportation system. He found a property operated under a Charter which was so drawn as to emphasize the right of the stockholders to have dividends immediately declared out of the net earnings of the company at the end of the year, and was thought to vest no discretion in the Directors to hold the earnings for carrying out broad policies and enlargement of the usefulness and ultimate earning capacity of the company. It is quite evident, from the history before us, that Mr. Hays found it difficult to secure from the shareholders consent to the acquisition of needed additional capital properly to equip and reconstruct the road and to enlarge its transportation capacity. It is further obvious that in his efforts to do this, he increased the operating expenses by including in them outlays in the matter especially of motive power, freight and passenger cars, which should have been properly charged to capital and regarded as a new investment, rather than as current additions to operating cost. In this way, he was enabled to improve the road materially and make it a first-class railroad, without calling upon the stockholders for great additional capital. He thus withheld from them dividends that possibly might have otherwise been declared. From the evidence of Mr. Williams, a very experienced expert in the management and development of railways, now the President of the Delaware and Hudson Canal Company, it is clear that the motive power and the car equipment of the Grand Trunk has been improved and maintained with a minimum charge to capital, and with a very large charge to revenues, and that in the years 1910, 1911, and 1912, the company had been gaining in its capacity for doing the business and in the efficiency of its equipment, and had taken on the character of a great trunk system.

I have been impressed by the number of skilled, loyal, reliable and most experienced employes, the heads of bureaus and departments, who have filled the general offices, and who have been in the employ of the Grand Trunk for many years—indeed, who entered the employ in their youth, and have continued loyal to the company until their maturity and old age. Through a school of apprentices and other methods, an esprit de corps has been acquired that has been very valuable to the company, and it can be stated with confidence that had the policy of the company, as dictated from London, been as prudent, as wise and as effective as the local management through the officers of the Grand Trunk here, the fate of the property would have been different.

The Grand Trunk System has been burdened with a very great number of branch lines, and with some lines parallel to its main trunk line, which it acquired to avoid competition, and which are not a source of profit. Many of the branch lines of course are feeders, but it is quite apparent that they are in some respects a burden. In a degree the same thing has been true of branch lines acquired in Michigan, but the marvellous growth of business in that State in the centres reached by the Grand Trunk is very likely to make them very profitable. With much care and wisdom the business of the Grand Trunk System has been nursed into a large through traffic between Chicago and the Atlantic Seaboard. While the amount of business done in the United States by the Western Lines and the New England Lines of the Grand Trunk System is not more than one-third of the Grand Trunk Railway of Canada, the business which has come to the Grand Trunk is perhaps 70 per cent due to its business from and to the United States, to and from Canada, and to other business from and to points in the United States through Canada to and from other points

in the United States. This main line through business has been encouraged in every way and with much foresight and ability. The road has been maintained so that the immense burden which was thrust on the road during the war times was carried without a break. Of course, the volume of business was temporarily increased by war conditions. Nevertheless, the business of the Grand Trunk has shown a steady increase not alone in its operating revenues, which are often a misleading guide, due to increases in rates, but in its statistics of tons carried per mile.

Mr. Kelley, who is the very able President of the Grand Trunk System, and whose ability has been recognized by his continuance in the management of the road, after its transfer to the Government, testifies that the road is in good operating condition, and that it could, without substantial expense, meet a fifty per cent increase in its business.

One of the advantages which the Grand Trunk enjoys, and it is a real one, is the foresight with which land has been acquired in Chicago, in Detroit, in Toronto, and in Montreal for enlarging the terminal facilities in those cities to meet the growth of business. Of course it will take capital outlay to equip them properly, but the land is there and conveniently situated for the purpose. On the other hand, the Grand Trunk is rather unfortunately situated in respect to grade separations in cities. It has a very valuable entrance to Detroit, and its right-of-way, though at places somewhat narrow, passes through the centre and business part of the city. It crosses a great many streets and there is likely to be a movement to require the Grand Trunk to elevate its tracks and separate its grades from that of the streets. This is a very expensive matter. It is, however, something that it takes a good deal of time to bring a railroad to do, but the railroad must gradually make preparation to meet the expense. There is a similar situation in Montreal. The Bonaventure station is an old structure, and while very conveniently situated in the city, does not offer very ample accommodations. There are many grade crossings in the approach to the station and an agitation has already begun looking to the separation. The company, in anticipation of the necessity, has expended a considerable sum in the purchase of land needed to widen its approaches to the new station. The city itself must contribute part of the amount to be expended and this fact will probably enable the company to postpone the separation for a number of years. In Toronto the case is more urgent and involves a new Union Station which has been built and for which the companies have entered into bond obligations. The station is erected with a view to the elevation of the tracks. The Grand Trunk has already elevated its tracks west of the station, but there is a great deal of work of a similar character to be done to the east, and $4,000,000 has been spent in the new station. A burden of something like ten millions of dollars each threatens the Grand Trunk and the Canadian Pacific in the uncertain future. The entrance to Chicago is over the tracks of the Western Indiana in which the Grand Trunk owns a certain amount of stock. These are elevated. The Grand Trunk has a fractional interest, too, in the Chicago Belt Line, whose tracks are also elevated. But for several miles near the limits of the city, the tracks of the Grand Trunk have grade crossings which are in the uncertain future to be removed by separation, and the city authorities of Chicago are gradually pressing toward this consummation.

A subordinate engineer in charge of grade separations of the company, called by the Government, testified that the expenses of these grade separations, including those of London, Ontario, and South Bend, Indiana, would amount to some $46,000,000. There is no likelihood that either at London, or South Bend, there will be any money spent for such a purpose till the company is quite ready, and yet $13,500,000 are assumed to be needed for those in the next five years. This estimate on the part of this official was a personal one, had never been submitted to his superior officers, and is not one, I think, which we should take as serious. He had made

no calculation or investigation as to how the Grand Trunk would be aided by the New York Central, the Canadian Northern and other roads who must in equity contribute and at least one of which has agreed to do so. This witness himself thought this work might be spread over 20 years. It would not be unreasonable to divide this estimate by two and lengthen the time in which the money would have to be spent.

The physical condition of the railroads in the United States was not improved by the war. The shortage of labour and the very high wages which had to be paid to the labour which could be secured, and its low efficiency, as well as the high cost of material, furnished strong motives for reducing the current maintenance to as low a point as possible, consistent with the safety of the road. Doubtless in this respect the Grand Trunk was no exception. In the restoration of normal conditions, it is natural that maintenance and capital expenditures that often accompany maintenance under such circumstances should be made, but railroads that are not rich will if they are wisely managed do this as gradually and economically as they can, delaying expenditures as far as safety and efficiency will permit, to reach a time of lower prices.

The common stock of the Grand Trunk Railway, amounting, as already stated, to £23,955,437, has never in the history of the road paid a dividend. The first two preference stocks have had full dividends for the calendar years 1910, 1911, 1912, 1913, and 1916. A part dividend was paid on the third preference stock for the same years, except that of 1916. In addition to the interest which the Grand Trunk is legally liable to pay upon debentures, bonds and other kinds of indebtedness of itself and its allied corporations, it has been in the habit of paying the obligations of other companies which it is not legally liable to pay, but which it must pay in order to maintain the unit machine of its system, and which if it is to be preserved in its present earning capacity must be regarded as part of its obligations. The part that this plays in the present issue, I shall consider later on.

THE GRAND TRUNK PACIFIC

The great mistake in the policy of the President and Directors of the Grand Trunk property, which seriously injured the value of the interest of the shareholders of this property, the association of this Grand Trunk System with an enterprise for the construction and operation of the Grand Trunk Pacific Railway Company. This construction was part of a plan of Sir Wilfrid Laurier's Government for a line from the Maritime Provinces and Quebec through the northern part of Ontario to Winnipeg, in Manitoba, called the Transcontinental line, and from Winnipeg to Prince Rupert, called the Grand Trunk Pacific. Mr. Hays, as the President of the road, and Sir Rivers Wilson, as the Chairman of the Board of Directors, entered into an arrangement with the Government for the consummation of this plan. The desire of Mr. Hays and the Grand Trunk Directors was to secure merely a western connection for the Grand Trunk Railway of Canada with the Pacific coast. The Government was not content with this and insisted that there must be linked with this a line east from Quebec directly to Winnipeg. Under the contract and charter, the Government finally agreed to construct the Transcontinental line from Winnipeg to Quebec, while the Grand Trunk Pacific, a newly organized company, all of whose stock was to be owned by the Grand Trunk Railway Company of Canada, was to complete the line to Prince Rupert, a point 450 miles north of Vancouver, in British Columbia, and 450 miles nearer to Yokohama than Vancouver. The agreement provided that after the Government should construct the Transcontinental line to Winnipeg, the Grand Trunk Pacific would operate it and pay a rental yielding to the Government a proper percentage on the amount expended in its con-

struction. The cost of both roads was so much greater than was anticipated that in 1916, when both roads were completed, the Grand Trunk Pacific officials refused to undertake to operate the Transcontinental, and in this refusal the Government acquiesced, and has operated the Transcontinental at heavy losses ever since. The Grand Trunk System did, however, secure connection with the Transcontinental line north of the lakes and thereby entered Winnipeg from the western terminus of the Grand Trunk Railway in Northern Ontario. This made a through Grand Trunk line from Montreal to Winnipeg and by the Grand Trunk Pacific to the Pacific coast. The contract required that the Grand Trunk Pacific should be constructed with the same standard of excellence as that maintained in the Grand Trunk main track between Montreal and Toronto. The result was that the cost of the Grand Trunk Pacific was excessive, as indeed was that of the Transcontinental. The Grand Trunk Pacific line runs through the Yellow Head Pass, along the headwaters of the Fraser river. This is the lowest pass to the Pacific coast either in Canada or the United States, the altitude of the track being not more than 4,000 feet. Except for twenty miles of what is called a pusher grade, where the grade is about one per cent, the grade of the rest of the line does not exceed a half of one per cent. The bridges are of stone and steel. Material for them had to be transported by river and other expensive methods, so that the cost was greatly increased. The well-established and economical method of building such a road is to build pile and wooden bridges, temporary structures, and use them until they cease to be safe, and then to substitute a more permanent material, which can be transported over the lines of the railway at least cost. To secure the low grades of which I have spoken, the immense trestles over ravines in the Prairie Provinces and elsewhere along the line have been constructed with a view to their being filled up with dirt and thus made permanent. It would have been much more economical to begin with less favourable grades and gradually better them as growth of traffic justified it. While the Grand Trunk Pacific was being constructed in the Prairie Provinces of Manitoba, Saskatchewan and Alberta, a number of lines were being gathered together in what was called the Canadian Northern System, under the promotion of railroad contractors McKenzie and Mann. It would have been vastly more economical if the Grand Trunk Pacific and the Canadian Northern could have united in some way under the same management, and not be compelled to divide a country which could not furnish more than enough business to engage the capacity of one line. The managers of the two companies were not able to agree upon terms, and the result has been that the Canadian Northern extended its line to the coast at Vancouver, and parallels through the Prairie Provinces and the Yellow Head Pass for hundreds of miles the Grand Trunk Pacific. Mr. Hay's evident object in carrying his line to Prince Rupert, where there is a good harbour, was to make the system one for Oriental business by steamship lines organized to run from Prince Rupert to Yokahama, but in view of financial straits no such lines have been organized. Of the three more or less parallel lines in the Prairie Provinces, the Canadian Pacific, the Canadian Northern and the Grand Trunk Pacific, the gathering of business depends a good deal upon the character and extent of the branch lines. In this respect, the Grand Trunk Pacific is at a disadvantage. Its branch lines have heavier grades and are less in number and extent than those of the other lines and not so well placed.

The Grand Trunk Pacific has been operated since it opened for business on the first day of January, 1916, at a very heavy loss. It has not paid its operating expenses. The Government aided its construction by guaranteeing the interest due on its debentures issued for its building to the extent of $68,000,000. This issue was followed by an issue of 5 per cent and 4 per cent debentures which the Grand Trunk Railway Company of Canada guaranteed. The Railway's guaranty is absolute to the extent of $2,594,080 annually. Another guaranty is conditional on there being earnings enough to pay dividends on the guaranteed stock, but not on the Preferred

and Common stock. This involves an obligation of $1,395,170 annually. Subsequent Government aid to the Grand Trunk Pacific was given without a guaranty of the Grand Trunk Railway of Canada. The Grand Trunk Railway also advanced large sums to the Grand Trunk Pacific and its subsidiary companies from time to time. The Grand Trunk Pacific Branch Lines Company, a subsidiary company, is thus indebted to the Grand Trunk in the sum of about $11,000,000. The Grand Trunk Pacific Development Company, another subsidiary, is indebted to the mother company in about the same sum, and so is the Grand Trunk Pacific itself in about $267,000.

The drain upon the Grand Trunk Railway Company of Canada began before 1910, with the construction of the road, but it became heavier as the expenses of construction grew until it reached the proportions mentioned. During the years 1912, 1913, 1914 and 1915, before the Grand Trunk Pacific opened for business, and while it was still receiving the proceeds of the bonds issued for its construction, it was able to pay interest to the Grand Trunk Railway of Canada upon advances made, and indeed to repay out of the proceeds of those loans, much of the money advanced directly to the Grand Trunk Pacific by the Grand Trunk Railway of Canada. Nevertheless the net result has been the draining of the resources of the mother company to the extent of $22,000,000, half of which is certainly entirely lost, and can never be recovered, and the other half, that due from the Grand Trunk Development Company, may be paid ultimately, but it must be by way of salvage realized from the sales of a receiver who now holds it. The balance sheet presented on behalf of the Company of the operations of the Grand Trunk Pacific Railway System shows a deficit, after operating from the first of January, 1916, to the first of January, 1920, of $30,845,828. Early in the year 1919, the President of the Grand Trunk Railway Company of Canada and of the Grand Trunk Pacific Railway Company notified the Government that the Grand Trunk Pacific could no longer continue to operate. The result was the taking over of the Grand Trunk Pacific as a war measure by the Government Receiver. The deficit up to the time of the receivership was $21,415,948. After the receivership, and down to the first of January, 1920, it was increased by $9,429,879. The net loss from rail operations, leaving out taxes, and including only railway operating revenues and railway operating expenses, from the inception of operations to December 31, 1919, three full years, was $10,269,172. Between the first of January, 1916, and the first of January, 1920, the business of the Company, instead of increasing, decreased. It may be that the line of railway will ultimately become a valuable one. It is quite probable that the Prairie Provinces, which are so rich in the production of wheat and other cereals, and British Columbia near the line of the Grand Trunk Pacific, with its coal resources, and a steamship line to the Orient when established, may ultimately furnish large revenues to this trunk line. It is certain, however, that it will need much additional capital and a good many years' development to create a business that will make it profitable, and that if the railroad is to be maintained, it will need a very heavy maintenance fund to keep it in proper condition.

The Grand Trunk Company owning all the stock of the Pacific road abandoned it to the Government. The Government alone could take it over. They were the guarantor or owner of $68,000,000 of its first obligations.

We cannot in this proceeding, it seems to me, attribute to the shares which the Grand Trunk Company holds in the Grand Trunk Pacific Company any value at all. The absolute guaranty, $2,594,080, is reduced by $301,320, which is the amount of annual interest due on the bonds of what is called the Lake Superior Line. This has been leased to the Government at a rental of $600,000, and the rental makes complete provision for the payment of the guaranteed interest. This leaves the absolute guaranty at $2,292,760, and the conditional guaranty at $1,395,170, not obligatory unless net earnings of the Grand Trunk Railway, the guarantor, permit

its payment after the meeting of all running expenses, interest on funded obligations and the dividend on its guaranteed stock.

Mr. Atwater argued strongly for the shareholders that something might now be realized out of a sale of the Grand Trunk Pacific to reduce the liability of the Grand Trunk Railway Company of Canada on its guaranty. I have considered this matter with care, but I can not for the life of me see any hope that by a sale of the Grand Trunk Pacific's property, a sum could be realized that would more than satisfy the first lien of the receiver's debts, which have now become $9,000,000, and the prior debentures amounting to $38,000,000 guaranteed by the Government.

In addition to the $30,000,000 deficit in three years already referred to, Mr. Sullivan, a witness for the Government, and an able practical engineer, one who had served upon the Canadian Pacific and other roads, and is very familiar with the engineering problems and expense of that region, including the Prairie Provinces and the Pacific Coast, gives an estimate of twenty-four millions of money needed in the near future to keep the Grand Trunk Pacific in proper condition. A stage is rapidly approaching when the wooden structures used to maintain the grade in the form of trestles must be by fills which are very expensive, or by steel structures. Then for two hundred miles, in descending to the Pacific Coast, there are constant slides which promise to entail a very heavy expense in repairing them. Mr. Berry, who testified for the Grand Trunk in this matter, emphasized the difficulties and expense growing out of these slides and substantially agrees with Mr. Sullivan in his evidence as to needed fills and the short lives of these great trestles and the unwise policy in the road's too perfect construction by which its cost was greatly and unnecessarily increased.

The association of the Grank Trunk Railway Company with the Grank Trunk Pacific and the Transcontinental, is the tragic part of the story of the Grand Trunk Railway of Canada, whose history, in spite of certain indefensible acts of its London management, to which I shall refer later, is one which should arouse the gratitude of the people of Canada for the benefit which has come to them in the development of their country through the agency of this pioneer system of railways. Canada is so situated that the construction of railways with Government aid has been a political and economic necessity. It is a country four thousand miles from sea to sea, and so far as its settled portion is concerned, not more than 400 or 500 miles from north to south. Its far northwest will doubtless acquire inhabitants in the future, for it shows a surprising possibility in productiveness due to the climatic influence of the Pacific. For the present, however, the territory in which railways can find or develop business is a more or less narrow strip of settled and civilized country from east to west, with a barren interval from North Bay to Winnipeg, which is not a source of useful products, but must be traversed in order to reach from the east to the Prairie country and to the Pacific.

It was made a part of the condition of the union, embodied in the British North America Act, that Quebec and Ontario should be united by Railway with the Maritime Provinces and the Government was obliged therefore, as a political necessity, to build, construct, own and operate at a loss the then called Intercolonial Railway.

A condition of the coming into the Dominion of British Columbia was an agreement that a railroad should be constructed uniting the Pacific Coast with the eastern provinces of Canada. This had to be done and was done by private enterprise, reinforced by very large contributions from the Government. The history of the Canadian Pacific and its present wonderful prosperity finds something of its explanation in the fact that the Government contributed very largely to its construction in actual outlay and the actual building of important parts of the road, and also in its land grants. These have enabled the company to maintain a very low capitalization in its bonds and stocks, and therefore to earn

substantially a constant dividend on its capital stock, perhaps a certain and as ample as that of any railroad on the continent.

The Canadian Northern, too, has had very extensive government aid, even greater in proportion than that of the Canadian Pacific. The Grand Trunk Railway Company of Canada, which was much earlier in the field, and offered the opportunity to Ontario and the western part of Quebec to develop prosperously, has had comparatively little assistance.

All these circumstances should challenge, on the part of those who are called upon to do justice to non-resident shareholders, the closest attention to the pleas made in their behalf and to the exercise of a spirit of equity in dealing with their interests, which are now to be ended in this enterprise and are to be compensated for by our adjudication and award.

It was for this reason, among others, that it seemed to me a proper course to allow the company and the shareholders to offer in evidence proof of the reproduction value of the whole Grand Trunk Railway System and of what is called the physical value of the property as distinguished from the reproduction value. This would not be fore the purpose of compelling the Government to pay the reproduction or actual value of the physical property, but only to enable us to use the value as a circumstance in judging its future and potential net earning capacity. Such evidence is held in the United States to be competent and relevant in adjudging what a railway company should earn and therefore to fix its rates. With conditions so much the same in both countries and in respect to a railway like the Grand Trunk, seventy per cent of whose rate receipts are directly affected by rates in the United States, it would seem proper to adopt the same rule of evidence.

In a similar proceeding by the Government taking over the Canadian Northern, through a Board of Arbitration, at the head of which was the Chief Justice of Ontario, received evidence of the reproduction value and acted on it in their award. The Government filed there a formal objection but did not press it and the evidence went in. Evidence of this kind here produced might have materially affected the opinion which the Board would form of the earning capacity of the road and its future possibilities, especially in view of the fact that the tendency of railway legislation in the United States, as shown by the last United States Transportation Act, is toward making the reproduction value of railroad property used economically for transportation a proper basis for fixing rates. The ruling of the majority of this Board, however, has been against receiving such evidence. Bowing to that decision, it becomes my duty, as a member of the Board, to fix the value of this stock without the aid of such evidence.

One of the great issues made in the case is as to the physical condition of the road and the system for operation. The Government has been at great pains to point out the defects of the road and the failure of the company to expend the needed funds for current maintenance of bridges, rails, ties, ballast, the motive power, including locomotives, freight and passenger cars. On the other hand the counsel for the shareholders insist that the history of the road and its achievements during the war and under the stress of greatly increased traffic, is an indication that it is safe and one hundred per cent efficient—that one must judge of a road by the work it does and if the freight is carried and the passengers are carried without accident or loss for years, and the duty of the common carrier is thus discharged, and the equipment of the road is kept up to such a point that the work to be done is done, it can not be said that the road is suffering from any great deferred maintenance.

The chief witness for the company was Mr. John B. Berry, a railway engineer who has had a long experience in the engineering department of the Chicago and Northwestern Railway Company, a most important and extended system, and thereafter

Chief Engineer under Mr. Harriman in the great reconstruction of the Union Pacific Railway Company, and then for six or seven years the Chief Engineer of the Chicago, Rock Island and Pacific Company. Mr. Berry is a man of the highest standing in the railway engineering profession. He may be looked upon perhaps as the "dean" of that particular branch of his profession. He is a man evidently of solid character and of strong opinions which he does not change at the suggestion of counsel, either of those who call him or those who cross-examine him. He has visited the principal lines of the Grand Trunk Railway of Canada many times and the properties of all its subordinate companies, as well as those of the Grand Trunk Pacific. He examined the records of the properties of the company before he made his inspection, made up his mind as to the bridges and places on the road at which he would stop, and give close inspection. He noted the condition of the rails, of the ballast and of the ties from an inspection car placed in front of a locomotive which ran some 15 miles an hour, and which stopped wherever he indicated his wish to do so. He made notes of his examination and reported what he saw as either "good," "fair" or "poor." "Good" meant a high standard, "fair" meant something that would last for four or five years but would then need to be replaced, and "poor" something that ought to be replaced in the near future. He did not make an inspection with a view of reporting on the cost of making the repairs that might be needed, but he made a report as an experienced engineer would make it, in giving to one considering the question of purchasing the property, a satisfactory knowledge of the condition and the value of the road. In fact he did prepare a report of its reproduction value, less depreciation, though he was not allowed to put it in evidence. He made this report with full appreciation of the judgment that those who engage in the actual economical operation and maintenance of the road with limited resources must exercise, in determining the amount of current repairs and maintenance that should be made to keep in good operating condition. Mr. Berry's evidence is that the railroad does not show deferred maintenance but on the whole is in excellent condition.

The Department of Railways and Canals of the Canadian Government, on the other hand, sent out a force of men to make minute examination of every part of the road and to report on every deficiency which they could see, with a view of estimating what it would take to repair and equip the road according to a standard not affected by a limitation of means, but with the backing of a government treasury, and with a knowledge that the report was to be used in depreciation of the value of the road to be bought. I have no criticism to make upon the witnesses for the Government except to say that there was on the part of Colonel Monsarrat, who reported upon the bridges, and the others who reported on the maintenance of way, an enthusiasm of condemnation that rather injured the weight of what they had to say, with me. Colonel Monsarrat's evidence was so rebutted by the evidence of those who were in constant charge of the work that he criticized as to give me the impression that he was calculating the cost of producing a perfect road without regard to economical considerations. His severe criticism of bridges which in the growth of business had grown too light for the traffic, and had been strengthened by the use of wooden or pile bents, seemed to me to be unjustified, and I must agree with Mr. Berry's criticism and with that of counsel for the shareholders that upon lines where the traffic is light, where the profit from the operation is small, if any, but which must be maintained, the use of pile bents to continue the life of bridges is much wiser than the expenditure of a large amount for new steel structures when the bridges thus reinforced will last for several years and be entirely safe, and this however much they may offend the eye of an engineer who insists on new and good-looking bridges everywhere. The tone of Colonel Monsarrat's statements as to the bridges was likely to give the impression that the condition in many instances are

dangerous, and yet the fact is that the road has been operated under the same conditions for a number of years with complete safety, with these bridges always under observation, and with an accurate knowledge by the men in charge of the status of each bridge and any change therein for years.

It may seem an anomaly to criticise the reports of witnesses in respect to the condition of the railroad as too minute and meticulous, and yet the criticism is not without justice. It reflects the purpose to dwell on small deficiencies, to insist on perfect reparation of them when a reasonable economic policy would lead to a less expensive method by which complete safety and effectiveness can be secured without a large outlay for some years, until a time of cheaper construction and easier money. Thus a recommendation that great grain elevators made of wood and reasonably effective for their purpose for years to come should be torn down and new elevators put up of reinforced concrete, made by a witness for the Government, seems to me quite unreasonable, and this even though the insurance of grain when warehoused in wooden elevators is greater than that in a concrete warehouse. The record shows that there are many, many wooden elevators in active and profitable use, and the mere fact that when new elevators are built now they are built of concrete does not justify a policy of pulling down perfectly good elevators made of wood. The reason for constructing concrete elevators now is not due solely to a desire to reduce danger of fire but also because of the very high cost of timber.

I do not wish to impeach the veracity or professional skill of the Government experts on this issue of the condition of the road and the needed capital and maintenance expenditures. If the Government wishes to adopt the policy of putting the railroad in pluperfect condition and reduce further maintenance to a minimum for a series of years, and to make these expenditures now when the cost of everything is much higher than it is likely to be, that is a matter of policy with which we here have nothing to do. But when evidence of such cost is used to show how impossible it would be for the Grand Trunk to avoid heavy and overwhelming deficits in the near future and thus destroy all potential value of the stock of the Preferred and Common stock shareholders, I feel that I should doubt its weight for that purpose. In order to put the Grand Trunk System into proper condition, the sum of the estimates of these Government experts is that it would cost the Company in five years seventy-four millions of dollars, of which forty-four millions would be non-remunerative capital, $8,700,000 would be remunerative capital, and $21,881,010 deferred and extraordinary maintenance. When the badget was prepared by the officers of the company to be presented to Parliament for a vote of the budget of the year of money to be paid out by the Company, under the operation of the Company for fifteen months, ending March 31, 1922, the amount of it was $44,000,000. The Department of Railways directed that the budget be returned and that it be increased to $89,000,000 which was accordingly done by order. One of the chief differences was an additional sum of $16,000,00 for capital and other expenditures for maintenance. As recommended by the Government experts, the officers of the Company charged with the safe and efficient operation of the railway system did not deem such a sum necessary at this time.

The counsel for the Government press upon the Board, as corroborating their witnesses as to needed capital and maintenance, a report made by Howard G. Kelley early in 1917. Mr. Kelley, now the President of the Grand Trunk, was then the Chief Engineer of the system. At that time the President, Mr. Chamberlin, and London management of the company were seeking to induce the Canadian Government to take off their backs the burden of their Grand Trunk Pacific investment and to restore to them the moneys which the Grand Trunk had put into the Grand Trunk Pacific enterprise. They were anxious to make a showing of poverty on the part of the Grand Trunk

Railway of Canada, and of the impossibility of its continuing if loaded down with the Grand Trunk Pacific. They therefore understated their actual revenues in their published reports by some millions. This is the contention of counsel for the Government, which is not disputed. Their President, Mr. Chamberlin, testified to the Railway Commission, appointed for the purpose of investigating the Grand Trunk and the other railways of Canada, and the then condition of the Grand Trunk in the matter of maintenance, and greatly emphasized it. At that time, as a matter of fact, and by the admission of Mr. Kelley on the stand in the present case, the maintenance had run down because of war conditions, and the difficulty of securing labour and material. Mr. Kelley, as Chief Engineer, and under the instructions of his superior officers, thereupon made a report upon the needed expenditure capital and current for the purpose of putting the Grand Trunk into a proper condition. It is manifest, from the report itself, as well as from the circumstances, that by direction of his chiefs he prepared this report in accordance with the standard of the same kind of perfection as that which Colonel Montserrat and his follow witnesses for the Government have prepared their report in the present case. He laid down a measure for the renewal of rails and of other equipment which considerably exceeds in its requirements even those of the Government witnesses. He was not then President of the road—he was merely the Chief Engineer acting under the directions of his superior officers and using that discretionary judgment that may have a very wide range in stating a *de luxe* estimate of needed expenditures and needed maintenance. Since that time in the years 1918, 1919 and 1920 a very large amount of money —forty-seven millions—has been spent in putting the Grand Trunk Railway into better condition after the war. Mr. Kelley has been on the stand and testified at great length as to the present satisfactory condition of the road for the efficient discharge of the duties of the railway company. He has told of the heavy traffic that is carried on during the war, and he speaks with confidence of its condition with which he is most familiar, and of its capacity to do a much larger business than it now does, without any extensive additions in the matter of capital and maintenance. Counsel for the Government were at liberty to cross-examine Mr. Kelley by reference to his report as Chief Engineer and thus call from him an explanation of the difference between his present statement as to the condition of the road and his report of 1917. Instead of this, they put in his report without any further cross-examination of him. It is suggested that counsel for the company have said htat they were going to reproduce him on the stand with reference to deferred maintenance. Counsel for the company say that they did not carry out their purpose because of the ruling of the Board as to incompetency of the evidence as to value. It is only sufficient to say that if the Government counsel had desired, Mr. Kelley was available for cross-examination after the introduction of his report, but he was not recalled for that purpose. We are left, therefore, with his statement in chief, his explanation of the present condition of the road when he speaks as the responsible President of it, and with this earlier report of his in 1917, made under instructions and under the circumstances which I have already described. In order to make up for the condition in which the war had left this railroad, as it had all other roads, the management of the company had spent large sums for maintenance amounting in 1918 to nearly 12 millions, in 1919 to 17 millions and in 1920 to 18 millions, and it is insisted by counsel for the company, and testified by Mr. Kelley, Mr. Berry, and the company's officials in immediate charge, that this sum put the road in as good condition as any road in the country, and that such capital expenditures as the Government urges as indispensably necessary are not so.

I should observe at this time that while the date, May 21, 1920, is the day when the stock is deemed under the contract to have passed to the Government, although the shareholders through representation in the Committee of Management still retained

some control until June, 1921, evidence as to money spent in the improvement of the road after that date, out of the income from the road, is not rendered irrelevant. More than this, there is evidence that ties and rails had been bought by the company before the date of transfer, which were subsequently put in place. One can not strike a balance as of a day like the 21st of May. We must consider a railroad by years. Its accounts require it. It is a going concern and must be so considered and treated in its condition and valuation. It is fair, therefore, for purpose of determining the kind of railroad in which the Government is acquiring stock control by the purchase to bring the condition of the road down to the end of 1920.

It will be observed that the $74,000,000 of the total proposed by the Government for the years 1920 to 1926, includes $43,000,000 for the grade separations, already referred to. This is to be done in five years when even the witness upon whom reliance is had for this estimate expressed the opinion that it would be twenty years before the railway would be obliged to meet the full weight of such a burden. Such an item does not lend force to the exhibit as a whole. It does tend to make it especially persuasive in trying to estimate what the Grand Trunk Railway, if left in possession, would have to spend wisely and economically to keep its railway system up to do its public work safely and efficiently. These large sums are then introduced into the future estimated accounts of the company and pile up the fixed charges of the company so as to increase them some seven millions by 1925, which would preclude all possibility of dividends on the preferred stock. In other words, it is proposed to put a seventy-five million mortgage on the Grand Trunk property now as essential, with the result that the shareholders' interest disappears under the increased annual charges. I must feel that the evidence of the witnesses for the company is more weighty upon the point here in issue, namely what would a reasonable, economical owner of the railway have been able to work out for his shareholders in the next few years after having operated the railroad sufficiently and economically and safely, and having paid the fixed charges. My point is that the witnesses for the Government have directed their evidence to the cost of a policy in dealing with the railroad, which is not one which a private owner with the limitations upon his expenditures, not mandatory upon a great Government, would pursue.

Mr. Butler and Mr. Tilley have urged, with great force and ability, the view that the road can not be in good condition now because the Company did not pursue a proper course in setting aside a sum each year for maintenance to meet the depreciation that time necessarily brings. Mr. Butler referred to a direction of the Interstate Commerce Commission as to a head for depreciation in its classification of accounts to be kept and reported, a rule which the Canadian Railway Commission has not yet adopted, and which indeed is not fully in force and hardly more than recommended by the Interstate Commerce Commission itself. Cases have been referred to in which the Supreme Court of the United States and Sir George Jessel, the Master of Rolls, have emphasized the duty of directors of a company to make provision for repairs and maintenance and necessary renewals and not to declare dividends out of the gross earnings when nothing has been set aside for these purposes. There is no doubt about this principle, but we are not here for the purpose of determining whether the dividends which were declared should not have been declared, any more than we are for the purpose of punishing the directors for juggling with their accounts. We are here for the purpose of determining what the real interest, if any, in this railroad property the shareholders have, and what value, if any, it has. We are interested in the actual condition of the property, and while it is true that rules as to what ought to be done with reference to maintenance, in the view of an expert Commission like the Interstate Commerce Commission, and the failure to comply with their judgment in that respect may have a tendency to show that the road in question is not in proper condition, direct evidence as to its condition is more

weighty, and the old argument that "proof of the pudding is in the eating," has application. However faulty the managers of the road may have been in not establishing a depreciation reserve and in not at different times spending it as such, the fact remains that through the critical period of 1916, 1917, 1918, 1919 and 1920, this Grand Trunk System did an enormous work and never failed to meet the very exigent requirements of the Government in its transportation of the things which were so much needed to win the war. Moreover, it is true that however improper the motive for the establishment of an audit office account, the result of it was to furnish in 1919 and 1920, a large reserve fund to expend on the property by way of maintenance and renewals. No evidence has been offered to rebut the statement of Mr. Williams that in the earlier years a large amount of what might properly have been charged to capital investment was taken from the earnings of the road to keep up the motive power, the locomotives and the cars, and, as already pointed out, there is substantially no evidence to show that the cars and locomotives now owned by the Company are not ample for all the business that it is already doing or is likely to do.

The operating efficiency of the railroad can not be denied. The Company is to-day and has been for years last past, operating fast trains, numerous trains and heavy trains, the trains are making schedule time and there are substantially no accidents. Although these operations and the records of the Company have been completely under the scrutinizing and critical eye of government experts, no evidence has been adduced to rebut this. No attack has been made upon the tractive power of the Company. Several competent witnesses, after close inspection, have testified to proves it. The same thing is true of the freight and passenger and other cars. The shops and round houses, except in a few spots of comparative unimits completeness and effectiveness for the purpose and the work it has done portance, which can be remedied by very moderate expenditure, are in first class condition. As to the ties, the question is a matter of wise judgment. Mr. Berry's long experience and close examination of the records of the operation of the road enabled him to fix a proper standard of annual tie renewal at 2,000,000 a year, or 264 ties to a mile and the railway records show that taking one year with another, the renewals, including 1919 and 1920, have averaged 265 a mile a year. In respect to rails the showing is not so good because it was impossible to secure suitable rails during the war, and still more difficult to get the labor properly to replace them. The standard set by the Grand Trunk for its main double track from Montreal to Chicago and the New York territory has been one hundred pound rail, and much more than three fourths of it is of that weight. It could only secure under government limitation during the war period, 85 pound rail. During 1919 and 1920, a large amount of new 100 pound rail was purchased and put in the year following, considerably more than average yearly renewal. Mr. Robb says that more rail was put in the road in those years than in any year since 1907 and 1910. From Mr. Phippen's reference to the exhibits it appears that with the exception of grade separations, docks and wharves and elevators, the amount recommended for 1920 for maintenance, including bridges, rails, ties, ballast, etc., by the Government experts was $15,901,000, while the Company actually spent in that year $15,226,000 on the same things. It is true that Mr. Butler remarked that his witness advised him that the two did not cover all of the same things and that there was 7 millions in which they did not overlap, but this has not been explained.

I have already spoken of grade separations and elevators.

In reference to docks and wharves, a word is proper. These docks and wharves upon which Government witnesses insist much should be spent, are most of them at the termini of branch lines of the Grand Trunk where the business is very light indeed and unprofitable and in respect to which a policy of the severest economy consistent

with safety is the one on the basis of which we must place our judgment and estimates, and not one of expensive renewals or complete rebuilding.

On the whole evidence, when the fact as to what the great system is doing and has done for a long series of years, is considered, I can not bring myself to credit an unfavourable and condemnatory description of the condition of this old and settled railroad property, that would require for its continued practical operation for useful public purposes, an investment of what is equivalent to form seventy-five millions of new capital. We must, I think, resort to other means of judging the requirements of the situation.

I do not deny that the government plan of advancing large amounts of capital at the present time to improve the road and reduce the expense of maintenance in the future may be the wise course for the Government to pursue in carrying out its purpose in establishing the Grand Trunk System under government ownership. It is not, however, the most economical at such a time as this. Such a policy by Mr. Harriman in the reconstruction of the Union Pacific has proven itself to be wise, but a policy like this can only be carried out by those who are willing to wait decades for results in the form of net earnings and who have the financial ability to meet the immediate expense and delay returns for a considerable period. That is not a policy which can be used as a guide in a case like this to determine what the value of shares of stock are in earning dividends within a reasonable short time. It sacrifices much of railroad property capable of further profitable use, and if the stockholders had retained their interest, it would ignore their right to the most economical performance of the railway's public duties consistent with public safety and efficiency.

In a case like this, it is perfectly natural that witnesses should have a leaning toward the side which calls them, with a knowledge of the purpose for which they are called, and the Board must weigh the evidence in the light of the circumstances and attempt to reach in its judgment the probable fact. My own judgment is that the actual facts lie between the views of the opposing witnesses and that while there is a necessity for better maintenance in the Grand Trunk System which may delay somewhat a return to a normal net operating percentage, after the strain of the war, the reports of the governmental engineers are quite excessive. They pile Pelion on Ossa.

We come now to the principal and ultimate question of the case upon which what I have been discussing has a bearing. That question is what we may reasonably anticipate as the net earnings of the three Preferred stocks and the Common stock within such a time that an intending purchaser would be practically affected in the price he would pay for them.

In presenting to the court the various elements of value of the Grand Trunk road, Mr. Phippen first dwelt upon certain properties which he denominated as "frozen assets." He considered that they amounted in ultimate realizable value to $25,000,000 or more. The first of these was the property of the Southern New England Railroad Company, a railroad projected and partly built between Palmer, Massachusetts, and Providence, Rhode Island. This railroad was begun by the Central Vermont and the expenditure was made by it of $7,000,000 loaned for the purpose in 1911 by the Grand Trunk Company without interest. The right of way has been purchased and a good deal of the grading has been done, but it would take some $7,000,000 more to finish it. It is a railroad which if built would give access to Providence, Rhode Island, to the Grand Trunk System and would bring that system into a territory in Massachusetts, Connecticut and Rhode Island, which is a hive of industry, and would doubtless be a source of much increased business for west bound traffic over the Grand Trunk lines. Mr. Kelley does not recommend the investment of any further money in the completion of the railway until times change and prices fall, but his judgment is that in the future it will be wise to com-

plete the road, and that the road will become a profitable feeder for the system. It seems to me that the road may be made profitable some years hence.

The Jacques-Cartier Railway running around the mountain of Montreal to connect the main line of the Grand Trunk with the territory east of Montreal to the river is another unfinished investment that brings in now nothing but obligations in the form of taxes. How valuable this may prove to be in the future is a matter of speculation and upon which we have no means of judging except by the cost of it, which was $1,600,00.

The next item in this list of "frozen assets" is the indebtedness of the Grand Trunk Pacific Development Company to the Grand Trunk Railway of Canada. This indebtedness grew out of advances made by the latter company to this Development Company to enable it to carry on the business of assisting the Grand Trunk Pacific Company in its building and operation. It owns steamship companies, dock companies, hotel companies and a good deal of land for sale. It has not paid a dividend because from much of its property it is not expected to secure a regular income but merely to develop it and then sell it and divide the proceeds. It owes $11,000,000 to the Grand Trunk Railway of Canada, and $2,000,000 to the Grand Trunk Pacific Company. It was taken possession of by the receiver whom the Government put in charge of the Grand Trunk Pacific Company. The Grand Trunk counsel insist that this is a breach of the rights of the Development Company because it was not insolvent and the Grand Trunk was its largest creditor. We have not had specific evidence adduced before us as to the value of the properties which it holds. There is $3,000,000 outstanding in payments due upon lands sold, and there are two large fine hotels, the Fort Garry Hotel at Winnipeg, and the McDonald Hotel at Edmonton, which cost millions, and are valuable aud likely to be profitable. The assets of the Development Company, as shown by its books, amount to $12,536,324, as follows:—

Hotel property	$5,719,108
Wharves and docks	3,859,624
Steamships	1,273,135
Company holdings	7,719
Gravel lands	37,236
Terminal lands	292,745
Rights of way	3,932
Mortgages on employees' houses	11,135
Cost of farm lands	1,331,690
	$12,536,324

They indicate a very considerable salvage in the claim for $11,000,000 which the Grand Trunk has against the Development Company when the other debts are only two millions.

The fire insurance fund accumulated by the Grand Trunk of more than a million dollars, in order to do its own insurance, would seem to be worth its face in that it saves the Grand Trunk from the annual payment of a very considerable amount for current insurance and this reduces its operating expenses. Another fund of a similar character is the compensation fund of $350,000 which adds value to the Grand Trunk Railway Company certainly to the amount of its face, by reason of offering indemnity against claims for damages for injuries that are a constant source of expense.

The next item is the investment of some $2,000,000 in the Montreal and Southern Counties Railway. The operation of this railway has resulted at times and for some years in the earning of a small surplus over and above expenses. For the last three or four years, however, there has been a deficit of about the same amount each year. The Grand Trunk has $340,000 of the stock, with $100,000 held by the public, and in addition the Grand Trunk has $500,000 of the stock issued or to be issued to reduce its indebtedness. I was much impressed by the evidence that this company will in a

few years become a paying investment. It serves a series of rapidly growing suburban towns south of the St. Lawrence river within easy reach of Montreal, not only for commuters but also for the carriage of milk and for express and other freight. It has not made any provision for depreciation and may need further capital to confirm its success, but I have a strong feeling that the property is one which will turn out to be profitable.

The Rail and River Coal Company owns 30,000 acres of coal land in southeastern Ohio. The coal is of the Pittsburg vein and is excellent steaming coal. The value of the property is estimated by Mr. Walter Kelley, the Superintendent of the Mines, as worth $12,000,000. An estimate by an expert connected with the geological department of Ohio was $8,000,000. These views were contradicted by a witness of some experience in coal lands, but who it seems to me did not qualify himself as the other witnesses were qualified. It is quite certain that the mining plant is well managed and is well equipped with the best modern machinery, that a very considerable amount of money has been expended in perfecting it, and that an adequate depreciation fund is provided. It is also clear that a good deal of the unused land has a definite market value per acre. Of course the value of the property will be much affected by the general situation of the coal market, questions of strikes and otherwise, but in this proceeding when the value must be fixed, we must assume a return to normal conditions and a demand for coal which the resumption of business will certainly create. I am inclined to think that the estimate of Professor Ray as to the value of the mines and property of this company was not in excess of its real value now that the mines can be economically operated with the best machinery and the surplus lands can be disposed of with reasonable care and discretion. To put therefore the unused land in among the frozen assets at a figure of $3,000,000 would be fair, leaving the full amount of land for years to come for mining purposes still in the possession of the Rail and River Coal Company.

A question has arisen over the title to the stock of the Rail and River Coal Company and a good deal of evidence is submitted. This has given me no difficulty. The argument of Mr. Lafleur upon this head is entirely satisfactory and convincing. The history shortly stated is this: Mr. Hayes became convinced that it would be wise to acquire this coal property to be used in connection with the operation of the Grand Trunk Railway in furnishing at a low cost good steaming coal for that part of the railroad that could be reached by a reasonably short haul. He was anxious to acquire it, but he could not induce the Board of Directors to take over the property to the Grand Trunk road chiefly for the reason they were advised that the charter of the Grand Trunk would not permit it to operate a coal mine. Moreover, there was fear that the commodity clause of the Interstate Commerce Act would forbid a railroad from owing a mine for such pupose. As a matter of fact, neither of the objections proved sound. However, the property was taken over in the name of the Development Company and contracts were formally made with the Grand Trunk Railway for the delivery of coal. The money for the purchase price was paid by the Grand Trunk Railway of Canada, and notes were given to the Grand Trunk Company for this. While the Directors were thus loath to assume the ownership the property was carried in what was really a state of suspense as to the title for several years. In spite of a good many formalities inconsistent with the real fact, it seems to me that the truth was that Mr. Hayes and those in charge always considered that this property belonged to the Grand Trunk Railway Company, which had paid for it, and were only waiting until the unfounded fears of *ultra vires* on the part of the directors of the Grand Trunk road were removed before vesting the title to the stock formally in the Grand Trunk Company. Some two years before the initiation of the receivership of the Grand Trunk Pacific Railway Company, which embraced that of the Development Company, the Grand Trunk directors gave authority to the officers

of the Company to take over to the Company the stock of the Coal Company. This authority was not formally exercised until just before the receivership. It is said that this formal transfer, effected just before the receivership, was a fraud upon the creditors of the Development Company. As the Grand Trunk is the only creditor of the Development Company, except the Grand Trunk Pacific Company, the debt to the former being eleven million and to the latter two millions, the motive for the fraud is not apparent. In fact, the transfer was in my judgment nothing but the commendable formal execution of either a resulting or an express trust. The mines are a valuable adjunct in the operation of the Grand Trunk Railway. All of the land is not needed and a part might well be sold. In the estimate of frozen assets, it would not be unfair to put this extra coal land in at three millions of dollars. The last of these assets is the amount of land purchased by the Grand Trunk in Montreal for enlargement of the approaches to the Bonaventure station in Montreal, the original cost of which Mr. Phippen doubtingly estimated at half a million, but the interest charged to the purchases indicates that it was about three millions. It will be available for use in grade separations and establishing new terminals in Montreal. Mr. Phippen's claim is that these frozen assets at a fair estimate are worth $25,000,000. It is possible that this is too rosy a view of what their value is, but certainly I should think that $20,000,000 could be realized from them in the course of the next ten years, and that they may be regarded as an offset to the amount of money likely to be imposed as an obligation upon the Grand Trunk System for grade separations in Toronto and Montreal, Detroit, and Chicago in that time.

Counsel for the shareholders have urged three different ways of proving that in the near future enough may be earned by the company to pay all that the contract and statute permits the Board to award to these stockholders.

The first agreement is based upon quotations taken from the London Stock Exchange and covering some four or five years, ending with 1913. In the discussion of the competency of evidence as to reproduction and physical value, I said that in my opinion little or no weight should be given to quotations on the Stock Exchange, especially where the stock has speculative value, as this seems to have had. Where the question is between one who has bought and one who has sold, and of damages for a breach of contract of a sale of a block of stock, the stock market quotations showing what might have been realized for the block at a particular time, or what stock might have been bought for at a particular time, would be relevant and important evidence in determining the rights between the vendor and purchaser, but here is where the Board advised as to all the facts in respect to the financial condition and earnings and management of the company—facts that could not be known fully to the public or those engaged in dealing in the shares, and where the purchaser is to buy the whole issue of stock, I do not myself feel that the quotations are useful at all. These quotations were quotations in 1913 made before the company had been greatly affected by its association with the Grand Trunk Pacific, and while it was receiving interest on its advances to that company. This Board is warned in the very statute under which it is acting not to take into consideration, as a means of determining the issue here, stock quotations if they are effected by the negotiations between the Government and the company. On the other hand, to go back to the quotations before the war, when so much has happened detrimental to the Grand Trunk Company since, is to resort to evidence of the most unsubstantial character.

The next basis for the claim of counsel is based on the provisions of the new transportation act of the United States. It is said that because the Esch-Cummins Act ordered the Interstate Commerce Commission to establish such rates as would return to the railway companies in the United States not less than 5½ per cent and not more than 6 per cent on the value of all the property of those companies devoted to the public service, and the relation of the Grand Trunk System to the American

Railway System is so close in that 70 per cent of its rates are affected by the rates of the United States that we must assume that the action of the Interstate Commerce Commission under the Act will bring a net return to the owners of the Grand Trunk of 6 per cent on the value of their property. On this basis counsel for the company urged the relevancy and competency of the reproduction value and actual physical value of the Grand Trunk properties. That evidence was rejected. In the absence of such evidence, I do not think there is any basis of comparison under the Transportation Act and can not follow Mr. Phippen in his argument on this head.

The third argument of Mr. Atwater and Mr. Phippen is based upon the normal net earnings of the Grand Trunk in the past and their amount having regard to the steady increase in the total business of the railway and its operating revenues.

Before taking this up in detail, I think it proper to consider the conclusion which the Chairman of the Board has reached, that on May 21, when the trausfer of title to the stock probably vested, the company was bankrupt, and therefore that the shareholders, the value of whose interests in the company we are considering, had nothing then in the company which we can value. The value we have to determine is, it is true, the value of the shares in May, 1920, but their value in May, 1920, is determined not by the limited earning capacity of the company at that time if there was a reasonable prospect that within a few years its earnings will be greatly increased. I agree the injury done to the property by the war and the absolute losses thereby suffered, those interested in it, bondholders and shareholders as well, must accept as a reduction in the value of their property, but they are not to be held to an earning capaacity as of that date. They are entitled to a value then reflected by the prospect of a return to better conditions and an earning capacity within a reasonable period such that the earnings may meet not only the fixed charges but also furnish a dividend on the capital stock. We have a right to exercise our judgment as to when a normal condition of affairs will come, and on the basis of our judgment to judge the normal earnings in the future by the normal earnings in the past. More than this, if it be true that the volume of the business done by the company, and which the company is able to do, in spite of the untoward conditions, has shown a steady increase in the amount of business done, at a regular ratio we have the right to predicate an increase in the future. Normality in respect to the Grand Trunk Railway of Canada is one that can be much more safely reasoned about and acted upon than in the case of a new railroad as the Grand Trunk Pacific. We can be quite sure that if other railroads in the country are returning to a normal basis, the Grand Trunk is likely to do the same thing. To say that the Grand Trunk on the 21st of May, 1920, at the nadir of railroad prosperity in the world, when purely operating expenses were as abnormally as large as they were, was in a state of bankruptcy, and the interests of its shareholders worth nothing, is, it seems to me, to deal most inequitably with the shareholders. Who can say what would have happened to the Grand Trunk if the Government had not taken it over? Had the Government not come to the rescue, it is quite possible that the bondholders who had already come to its rescue in 1860, might have aided it again, with the confidence that by tiding over the then exigent situation, they could count on a return to the normal.

I may add with reference to the views of the Chairman of the Board as to the bankruptcy of the Grand Trunk, that they are based largely on the Drayton-Acworth report and its contents, made now more than four years ago, in 1917. That report was admitted in evidence as reflecting on the value of stock quotations and for other limited purposes, and its use as evidence by way of admission against the company, or its shareholders, was distinctly disavowed by counsel, and as I understood it, that disavowal was approved by members of the Board. This is apparent from the record from which I quote at length.

"Mr. TILLEY: The question was raised before adjourning this morning as to the admission of the Drayton-Acworth report. I suppose my friends are ready to take a stand on that.

"Mr. LAFLEUR: Of course, this report is not strictly evidence except that a certain recommendation was made by a Government Commission. At the same time I do not know that we have any serious reason for objecting to it, provided it is understood that the statements which are there made as to the company's financial standing, or as to the deferred maintenance is not binding and we are not to be considered as admitting those statements at all because we consider that that question must be decided by the evidence which has been adduced before you.

"The CHAIRMAN: No question about that.

"Mr. LAFLEUR: And we wish to be at liberty to criticize those findings if they are urged against us, and to show that those Commissioners erred in their statement of the company's liabilities, and in the statement as to the deferred maintenance, because they made no distinction between deferred maintenance and deferred improvements.

Subject to these observations, we are not strenuously opposing the introduction of this as a sort of historical document. It is a public report.

"The CHAIRMAN: There is a portion of that report, Mr. Lafleur, that struck me as not admissible. It is the evidence that is quoted of Mr. Chamberlin and said to be corroborated by Mr. Kelley. I may be wrong about it, but I would have thought that was not admissible.

"Mr. LAFLEUR: No, because we had no opportunity of cross-examining these gentlemen, it was an ex parte examination.

"The CHAIRMAN: It could have been used while Mr. Kelley was in the box by confronting him with the evidence he gave then. The question of Mr. Chamberlin's evidence raises another point.

"Mr. LAFLEUR: We are prepared to show that Mr. Chamberlin, in his answers there, was not familiar with the situation, and that he made no distinction between deferred maintenance and deferred improvements which are chargeable, respectively, to income, revenue and capital.

"Hon. Mr. TAFT: I understood that Mr. Kelley's statement had already gone in as evidence.

"Mr. TILLEY: His statement went in yesterday.

"Hon. Mr. TAFT: As an admission by the company. That is what I supposed it did.

"The CHAIRMAN: I didn't understand that. I don't remember it, and more than that his evidence is not stated in this report.

"Hon. Mr. TAFT: Mr. Butler introduced the evidence, and there was no objection to it. At least I didn't hear any.

"Hon. Mr. ATWATER: Just at the last moment last night Mr. Butler introduced Exhibit 444 which he stated to be the letters written by Mr. Kelley to Sir Henry Drayton in connection with this examination that he was making. We did not have an opportunity to object to the production of them at the time, and Mr. Butler, when he produced them said he was just giving notice that he was going to produce the letters.

"The CHAIRMAN: It is a statement made by Mr. Kelley, corroborating Mr. Chamberlin.

"Mr. LAFLEUR: In which he furnished Sir Henry Drayton with certain statements. Now, it seems to me, if my learned friends intend to rely upon that, they ought to examine Mr. Kelley as to that, because there are explanations which must be given in order to make them conform with the evidence actually before you.

"The CHAIRMAN: That is a different question from what we are discussing. That is a letter from Mr. Kelley regarding information asked for by Sir Henry Drayton. The point we are discussing now is whether the evidence stated to be given by Mr. Kelley before the Commission is admissible.

"Mr. LAFLEUR: It is annexed as an appendix to the report and, of course, I would respectfully submit that you should not consider that at all.

"The CHAIRMAN: As I recollect it, there is no evidence which is appended to the report as having been given by Mr. Kelley. There is only the statement made by Sir Henry Drayton that Mr. Kelley was sworn and corroborated.

"Mr. LAFLEUR: I am saying that you should give no consideration either to the evidence of Mr. Chamberlin in that report or to the alleged corroboration by Mr. Kelley, because you have the evidence in this case upon this question

"The CHAIRMAN: They ought to be confronted with the evidence.

"Mr. LAFLEUR: If that report simply goes in as a sort of historical record that the recommendation was made to the Government to deal with the railways in a certain way, we have no objection, but if it is intended to refer to that evidence, or to that admission, or to the findings, as binding upon us, or as evidence before you to assist you in coming to your award then we object.

"The CHAIRMAN: Of course, they were seeking to get $25,000,000 at that time, and it was up to them to give certain evidence that does not exist to-day.

"Sir THOMAS WHITE: It seems to me that what Mr. Lafleur says is sound. Evidence taken in the inquiry by the Drayton-Acworth Commission would not be evidence here. If Mr. Kelley was in the box I suppose it would be quite proper for Mr. Tilley to confront him with any statement that he made while the Drayton-Acworth inquiry was in progress, or as to Mr. Chamberlin's evidence I suppose he could be called. That is what I would think.

"Mr. LAFLEUR: Subject to those observations, if you wish to have this report in as a sort of public document we have no serious objection, but if that deposition, and these statements of the finances are to be relied on as evidence in this case then we say it is illegal and should not be admitted.

"Hon. Mr. TAFT: I do not think myself that the report is evidence.

"Mr. TILLEY: I am not tendering it in that light, but merely showing the report to be evidence of the facts stated. I am tendering it as one of the documents that has become public since the negotiations commenced about the Grand Trunk's difficulties with respect to the Grand Trunk Pacific and about the Government taking it over, and I put it forward because, in the report itself, there are certain recommendations made as to the treatment to be accorded to the Grand Trunk which it may be material for me to refer to when it comes to a summation of the case at the end, because my friends may rely on stock exchange quotations, and such like, and all these things would have a bearing, particularly under clause 20 of the agreement.

"The CHAIRMAN: Mr. Lafleur and you could agree.

"Mr. TILLEY: I think we substantially agree. The evidence of Mr. Kelley, putting it in that way, possibly is not evidence of the fact, but it is evidence to this extent, that a Commission was appointed to investigate matters, that they made certain requests to the Government, heard them and reached certain conclusions as to what they had to say with regard to their properties, and so on, but it hasn't any great bearing on the question of value.

"The letter Mr. Kelley wrote, however, is in a different category, because there he was answering specific questions and that we feel is in to stay."

But even if Mr. Chamberlain's statements are to be taken as evidence, in the nature of admissions against the shareholders, they should be given no weight to establish bankruptcy of the company then or later. The counsel for the Government

have satisfactorily shown that the statements of Mr. Chamberlin were only a part of the plan to show the Grand Trunk to be in a worse condition than it was, of which the understatement of revenues to the extent of eight millions was another part, all with a view of threatening bankruptcy in the hope of inducing the Government to relieve the Grand Trunk of the burden of the Grand Trunk Pacific. It is not just to visit responsibility for such evidence upon innocent stockholders and thereby establish against them a probable bankruptcy which their directors really did not credit and were adopting most questionable methods for an ulterior purpose, to prove. These statements of Mr. Chamberlain were made in the year 1917 immediately after the most profitable year in the history of the Grand Trunk when its surplus, after paying all its fixed charges, was $11,319,341, a sum large enough to pay the full guarantees on the Grand Trunk Pacific debentures, a dividend on the 4 per cent guaranteed stock, the dividends on the three preference stocks and leave a surplus of more than two million for extra maintenance. Instead of being in bankruptcy or near it at that time, the Grand Trunk Railway was more prosperous than ever in its history, but the directotrs were trying to conceal it. This shows how unfair it is in this proceeding to base our judgment on what Mr. Chamberlain said in 1917.

We come now to the past earnings and the probable future net earnings as the only evidence of value of this stock.

This subject requires a reference to the accounts of the Grand Trunk Railway Company of Canada. It appears without dispute that from 1912 until 1920, the London management exercised a discretion to understate operating revenues and to understate operating expenses with a view to making the published statements of the earnings and expenses of the railway different from that which a true transcript of the books would have disclosed. In doing this they made use of a so-called audit office account which they charged and credited with sums to accomplish their purpose. They directed these charges and credits by cable messages to Mr. Chamberlin and the officer in charge of accounts. Counsel for the Government ascribe variable motives to the London management for this treatment of the accounts and they are borne out by the circumstances. In 1913 the operating revenues were improperly increased apparently in order to justify the declaration of a dividend on the three series of preferred stocks, a full dividend on the first and second, and half on the third. Then came a period in which the London management was anxious to induce the Canadian Government to take the burden of the Grand Trunk Pacific off its back, on the ground that obligation to run and finance the Pacific road might lead to the bankruptcy of the Grand Trunk. That led the London management to understate their operating revenues and charge the Audit Office Fund during the years 1915, 1916 and 1917 with an aggregate of nearly eight million dollars that should have appeared as additional revenue.

In 1919 and 1920, when the sale of the road to the Government was being faced as the best course, manipulation of the accounts was directed to making the financial condition of the road seem better than it was. This dealing with accounts by the London management admits of no defence, but it cannot be permitted to prejudice the interests of the shareholders in this case. The London management in these misleading statements was attempting to induce action on the part of the Government, on the one hand, and to avoid complaint on the part of the shareholders, on the other. The local officers, except the President and those immediately charged with the matter of accounts, were not privy to this action. This is not a proceeding to penalize managers or directors of a company for false statements. We must refer to it, however, in order to understand the necessity of restating the accounts and to reach the truth as to the real earnings of the Grand Trunk Railway Company of Canada during the ten years from 1910 to 1920.

The Chairman of the Board has referred to a statement by Mr. McLaren, the auditor, in respect to the accounts as published for 1919, in which year there was a

deficit, according to the corrected accounts, of $6,488,918.75, whereas the result as published was $5,556.53. It should be added that this discrepancy arose from the fact that there was taken from the office audit account the amounts which had been withheld from operating revenues in 1916 and 1917, to the extent of more than $7,000,000, and put, with the exception of about $150,000, into maintenance of way and maintenance of equipment, and used it in the betterment of the road in 1919, but in the published account for 1919 was not shown. In other words, the fund created by the understatement of operating revenues in 1915, 1916 and 1917 was used as a reserve account for renewals and repairs of the road in 1919, but the published accounts showed neither the formation of the reserve nor its expenditure.

Another feature of the accounts which is misleading and which became quite material after 1916, was entering to the credit of the company, as if paid, interest which was not paid on advances made to the Grand Trunk Pacific and to other subsidiary companies, on advances made for the purchase of land for use in the future which was wholly unremunerative. In some cases it represented a reasonable expectation of future payment, but in other cases it was an obligation, notably in the case of the Grand Trunk Pacific Company and in the case of the Grand Trunk Pacific Branch Lines Company, entirely worthless, upon which nothing could ever be realized. The books have been revised by Mr. McLaren to eliminate the two features referred to of the audit office account, and the other overstatements and understatements, and the crediting of unpaid interest. The unpaid interest does not enter into the net operating income, but into the final surplus applicable to fixed charges and dividends.

I have attempted, in what I have had to say in this case to deal only with the accounts as revised by Mr. McLaren, the auditor, and they are, as I understand, undisputed.

From the revised accounts it appears that in the year 1910, the percentage of the operating surplus of the Grand Trunk Railway Company of Canada, after taxes, uncollectable railway revenues, hire of equipment, joint facility rents, etc., were paid, was 26 per cent of the total operating expenses. I append, in tabular form, the showing as to 1910 and the following years:—

In 1910	26 per cent
" 1911	25 "
" 1912	23 "
" 1913	19.6 "
" 1914	23.35 "
" 1915	32 "
" 1916	32.88 "
" 1917	18 "
" 1918	8.4 "
" 1919	3.16 "
" 1920	3.91 "

This table shows an average for the seven years before 1917, when the United States came into the war, of 25.97 per cent and justifies the claim of counsel that 25 per cent is a normal percentage of the net operating income of the Grand Trunk Railway. It is in accord with the normal percentage for many of the first-class railways of the country. Indeed it is in a percentage which has been recognized by the Railway Commission of Canada and other public bodies engaged in fixing rates, as a reasonable one. The reduction in the net operating income since 1918 is due to the enormous increase in the operating expenses, which have grown far more rapidly than the operating expenses, though they have increased, due both to growth of traffic and higher rates. The labour costs increased 100 per cent or more, and material in some respects quite as much. This feature was more marked after the armistice than during the war, so that under the award of railway boards, huge sums were imposed upon railways as back pay to their employees, and sometimes before any attempted compensating increase of rates had been allowed to go into effect. These were the features of the year 1920 which was so disastrous in railway

circles. Railways which had up to that time always earned a normal surplus were put in the category of those not earning even their operating expenses. This is now changing. The tendency of all wages is now downward. The Railway Board of the United States ordered a decrease in the wages of the skilled railway employees of 12 per cent and more, effective July 1st last, and the percentage in reduction of common labour has been far in excess of this, with large numbers of unemployed. So, too, has the price of all material that enters into the operation of railways been much reduced, notably the price of coal. The returns of the American railways for the months of June and July, after the order reducing wages went into effect, indicate that the turn is at hand. How rapid the return to the normal will be is of course a matter of judgment, but the changes in the returns as the official reports for June and July, are so marked as to indicate that it will be only for two or three years before the normal ratio between operating expenses and operating revenues will be restored. This grows chiefly out of the reduction in operating expenses. The operating revenues show a decline, but the difference between the operating revenues and the operating expenses is broadening toward a wholesome net operating surplus for the railways.

Having this determined from the past what is the normal operating ratio of revenues to net operating surplus, we come now to consider what we may normally expect to be the sum of the operating revenues of the Grand Trunk Railway Company of Canada. These revenues increased from $36,133,125 in 1910, to $81,442,647 in 1920. The ton miles for freight traffic increased from 3,143,687,000 to 5,028,650,000, or at the rate for the ten years of 60 per cent or 6 per cent a year. The passenger traffic in 1911 was 545,335,000 miles, and in 1920, 529,810,000 passenger miles, showing a decrease during the ten years of 2·6 per cent. In other words, the passenger traffic was about stationary, while the freight traffic increased 6 per cent. The operating revenues for 1919 were nearly $70,000,000. The operating revenues for 1920 were $81,000,000. The operating revenues for the first four months of 1921 —not a good year for business, and always the worst third of the year, because the movements for grain are in the latter part of the year—was, in round numbers, $23,500,000, from which we can properly calculate that the total revenues for 1921 are likely to reach at least $72,000,000. It is fairer to take this as the basis of our calculatiion than $81,000,000 in 1920, because the traffic that year was exceptional and the rates in 1920 were higher than the rates in 1921, which latter rates seem quite likely to continue. .Beginning therefore with the basis of $72,000,000 of business, and allowing for an increase of 5 per cent a year, at the end of 1926, five years hence, we should have a total of $90,000,000. Assuming that the normal operating ratio of 25 per cent will be restored by that time, it would make the net operating surplus applicable to fixed charges, and other liabilities, and to the payment of dividends on capital stock, $22,500,000 for 1926.

We now turn to the fixed charges. The statement put in by the Government shows that the funded obligations of the Grand Trunk Railway Company of Canada, including its own direct indebtedness, the funded obligations of its stock, controlled and leased lines, which it has paid in the past when the principal debtor failed to pay, amounts after excluding the Grand Trunk Pacific guarantees, to $17,421,455.88. This includes interest on an issue of 25 millions of dollars in 1920, bearing 7 per cent interest to take up obligations incurred in meeting the deficit. It also includes the 4 per cent dividend on the guaranteed stock. The Grand Trunk Pacific guarantee by the Grand Trunk Railway of Canada should be stated in two amounts. The first is its absolute guaranty of $2,291,660. Its conditional guaranty is $1,395,000. To this should be added the cost of refunding 4, 5 and 6 per cent bonds which fall due in 1922, amounting to $297,200. The Grand Trunk and the subsidiary lines after the disastrous years of 1920, 1919, and 1918, as is shown by the unpaid vouchers needed some $18,000,000, $14,000,000 for the Grand Trunk and $4,000,000 for the

United States lines for an operating cash or working fund upon which interest due for the year 1921, amounts to $858,031 for the Grand Trunk lines and $254,122 for the other lines. Another item which Mr. Brown, the government accountant, inserted in his statement, and which appears in the budget, was for something over $5,000,000 as bank draft drawing interest. I eliminate that for the reason that as between the Grand Trunk Railway and the Government, the Government owes to the Grand Trunk something over $5,000,000, being a sum which it received as the proceeds of the Grand Trunk twenty-five million, 1920 loan, by reason of a profit on exchange which it made in paying off obligations of the Grand Trunk in London. This, therefore, I state in tabular form below, making a total of $22,467,468.88.

Funded obligations of the Grand Trunk Railway Company of Canada, including its own direct indebtedness, the funded obligations of its stock controlled, and leased lines which it has paid in the past when the primary debtor failed to pay, excepting the Grand Trunk Pacific, and including the 4 per cent guaranteed stock..		$17,421,455.88
Grand Trunk Pacific absolute guaranty..		2,291,660.00
Grand Trunk Pacific conditional guaranty..		1,395,000.00
Refunding 4, 5 and 6 per cent bonds which fall due in 1922..		297,200.90
The deficit of the Grand Trunk and the subsidiary lines during the disastrous years of 1920, 1919 and 1918, amounting to $18,000,000, upon which interest will be due in 1921, amounts to $858,031 for the Grand Trunk lines, and $254,122 for the other lines, or a total of..		1,112,153.00
Total..		$22,467,468.88
From this should be deducted the non-operating income which appears upon Mr. McLaren's Exhibit to be for the year 1920..	$3,122,505.00	
From that, however, should be deducted for interest credited to the Grand Trunk, which was not paid..	1,179,821.00	
Leaving a balance for non-operating income even in that bad year of..	$1,942,648.00	
In the same year Mr. McLaren credits the Grand Trunk for surplus income of subsidiary companies even in that year..	449,532.00	
		2,392,216.00
This leaves as the fixed charges to be provided for..		$20,075,252.00
Deducting this from the net estimated operating income in 1926, amounting to $23,400,000, it leaves..		3,324,748.00

which is enough to pay the $2,424,748 or within $150,000 of the limit fixed under the contract beyond which this Award cannot go.

I have been dealing only with the unit of the Grand Trunk Railway of Canada, and not with the lines going to make up the Grand Trunk System. They have had deficits which have been taken care of by the Grand Trunk in the past and in the statement of fixed charges given above. This is true also of the Vermont Central which is not in the System, but whose bonded indebtedness is included in the statement of funded obligations of the Grand Trunk stated above. Now these parts of the Grand Trunk System and the Vermont Cntral are bound to share in the improvement growing out of a return to a more normal relation of operating revenues to operating net income. They have in the past generally paid their fixed charges, some of them have paid dividnds, and there is no reason why they may not in a reasonably short time come to do so again. When they do meet their fixed charges, they will relieve the Grand Trunk of an annual payment of $1,312,649, as follows:—

Portland Elevator Company..	$ 11,075
Grand Trunk Western Railway..	655,024
Milwaukee Ferry Company..	1,890
Central Vermont Railway..	507,635
Rail and River Coal Company..	97,025
Montreal Warehousing Company..	40,000
	$1,312,649

This will give leeway for making of capital expenditures in improving the railroad system without excluding these Grand Trunk shareholders from participating in the benefit of better times.

In addition to this, the subsidiary companies belonging to the Grand Trunk, whose undistributed surpluses are credited above, may well in a period of good times increase both their dividends which would increase the non-operating income as well as their undistributed surpluses.

In stating this conclusion, I am met by the inquiry, "Assuming your estimates to be correct, what are you to do in the meantime, and how are the probable deficits to be prevented from piling up in such a way as to create permanent fixed liabilities absorbing this net operating income which you assume for the year 1926?" It should be noted in the first place that from the total fixed charges stated in tabular form in the foregoing amounting to $22,467,468.88, reduced by the non-operating income and by the surplus income of subsidiary lines to $20,075,252, there is included conditional obligations that do not aris until there are not earnings over fixed charges. They are not cumulative, and the failure to pay them would not constitute a deficit increasing the funded or unfunded indebtedness.

These are the amounts due on the guaranteed stock..	$2,433,333.33
and the conditional guaranty of the Grand Trunk Pacific of	1,395,000.00
	$3,828,333.33

Deducting this from the fixed charges of $20,075,252 leaves $16,246,918,67, as the fixed charges to be met during the interval before the net earnings are enough to pay anything on the guaranteed stock or the smaller conditional Grand Trunk Pacific guaranty. Twenty per cent net operating income on 81 millions would meet all the absolute fixed charges and this result we may anticipate within two or three years. Assuming that after the proper maintenance for the year 1922 there may be a deficit, and that deficits continue so as to make an addition to the permanent liabilities of $10,000,000, this would add $700,000 to the fixed charges which could be met as above and still leave the limit for the stockholders in 1926. The recent experiences of some American railways, as already indicated, show that this normal ratio may not be postponed for six years, but may come in considerably less time than that, and that the current deficits will have disappeared long before 1926, so that the surplus will begin to afford a part payment on capital stock.

What might have happened to this road had the Government not taken it over and adopted the policy it has of very large investment for capital betterment and extraordinary maintenance, is of course a matter of judgment for the arbitrators. Five years is not a long time in which to calculate ahead. Such calculations must be made in determining the potential values of property subject to such change as this is.

The stock upon which dividends may not be paid for five years is not as valuable as that upon which they are paid at once and this may properly reduce the amount immediately to be awarded below the value of the stock in 1926, as above stated. As I am in the minority, however, and my conclusion is not to be embodied in an award, I need not discuss how much reduction should be made for this postponement, though it ought certainly not to be more than twenty-five per cent. This would make my appraisement of all the stock, the value of which is here in issue, not less than forty-eight million dollars.

For the reasons given I must dissent from my brethren.

CANADA

DOMINION BUREAU OF STATISTICS

TRANSPORTATION BRANCH

CANAL STATISTICS

FOR THE YEAR ENDED DECEMBER 31

1921

PREPARED IN COLLABORATION WITH THE DEPARTMENT OF RAILWAYS AND CANALS, CANADA

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1922

CANADA

BUREAU FÉDÉRAL DE LA STATISTIQUE

SECTION DES TRANSPORTS

STATISTIQUE DES CANAUX

POUR L'ANNÉE TERMINÉE LE 31 DÉCEMBRE

1921

DRESSÉE EN COLLABORATION AVEC LE MINISTÈRE DES CHEMINS DE FER ET CANAUX

IMPRIMÉ PAR ORDRE DU PARLEMENT

OTTAWA
F. A. ACLAND
IMPRIMEUR DE SA TRÈS EXCELLENTE MAJESTÉ LE ROI
1922

[N° 20a—1922]

CANAL STATISTICS

PREFACE

The Canal Statistics are collected through the agents of the Department of Railways and Canals and compiled in the Transportation Branch of the Dominion Bureau of Statistics.

Freight traffic on the Canadian canals increased 671,638 tons during 1921 compared with 1920, due to increases on the Welland Canal of 800,350 tons and on the St. Lawrence of 666,103 tons, heavy grain shipments being chiefly responsible for these increases. There was also an increase of 456 tons through the St. Andrew's Canal. All the other canals showed decreases, the largest being that of the Sault Ste. Marie Canal, namely, 480,226 tons. Traffic through the United States locks at Sault Ste. Marie also showed a decrease of 30,545,288 tons. These decreases were due almost entirely to the depression in the iron industry, the decreases in iron ore shipments being 730,568 tons through the Canadian lock and 33,326,608 tons through the United States locks.

Coal shipments showed decreases on both the Welland and St. Lawrence Canals, and pulpwood showed decreases on the Welland, St. Lawrence, Chambly and Rideau Canals.

Full details of the traffic on the several canals are given in the tables.

R. H. COATS,
Dominion Statistician.

OTTAWA, February 13, 1922.

STATISTIQUE DES CANAUX

PRÉFACE

La statistique des Canaux est colligée par l'intermédiaire des agents du ministère des Chemins de fer et Canaux et compilée par la section des Transports du Bureau Fédéral de la Statistique.

Comparativement à 1920, le trafic des marchandises sur les canaux canadiens a augmenté en 1921, de 671,638 tonnes; cette augmentation est principalement attribuable aux importantes expéditions de grains, qui ont accru le trafic du canal Welland de 800,350 tonnes et des canaux du St-Laurent de 666,103 tonnes. On constate également une progression de 456 tonnes dans le trafic du canal St-André. Dans tous les autres caaux, le trafic a diminué, la décroissance la plus considérable étant celle du canal du Sault Ste-Marie qui atteignit 480,226 tonnes. Le trafic du même canal, passant par les écluses des Etats-Unis, présente également une diminution de 30,545,288 tonnes. Cette situation est la conséquence de la dépression qui a frappé les industries métallurgiques, la diminution des expéditions de minerais de fer se traduisant par 730,568 tonnes pour l'écluse canadienne et 33,326,608 tonnes pour les écluses des Etats-Unis.

Le trafic du charbon est en diminution tant dans le canal Welland que dans les canaux du St-Laurent; les transports de bois à pulpe ont également diminué dans les canaux Welland, St-Laurent, Chambly et Rideau.

On trouvera dans les tableaux qui suivent tous les détails de la navigation intéressant les différents canaux.

R. H. COATS,
Statisticien du Dominion.

OTTAWA, 13 février 1922.

TABLE OF CONTENTS

	Page
Preface	3–4
Tables	
General—	
Table I—Season of Navigation	7
Table II—Location and Description of Canals	7
Vessels—	
Table III—Vessels classified by Tonnage	8–9
Traffic—	
Table IV—Summary of vessel freight tonnage and Passengers through each canal.	10–11
Table V—Summary of freight through each canal	12
Canadian Grain Shipments—	
Table VI—Wheat through Sault Ste. Marie Canals, 1913–1921	13
Table VII—Grain and Flour through Sault Ste. Marie Canals—1921	13
Table VIII—Wheat through Sault Ste. Marie Canals by months and destinations	14–15
Table IX—Oats through Sault Ste. Marie Canals by months and destinations.	14–15
Table X—Barley through Sault Ste. Marie Canals by months and destinations	16–17
Table XI—Flour through Sault Ste. Marie Canals by months and destinations	16–17
Freight Rates by Water—	
Table XII—On Barley and Oats by months	18
Table XIII—On Flax and Rye by months	19
Table XIV—On Canadian Wheat by months	20
Table XV—On Canadian Wheat 1917–1921	21
Detailed Statements of Traffic by Canals for 1921—	
Table XVI—Sault Ste. Marie, Canadian & U.S	21
Table XVII—Sault Ste. Marie (See Page 21)	22–23
Table XVIII—Welland	24–25
Table XIX—St. Lawrence (Through and Way)	26–27
Table XX—St. Lawrence—Through	28–29
Table XXI—St. Lawrence—Way	30–31
Table XXII—Chambly	32–33
Table XXIII—St. Peter's	34–35
Table XXIV—Murray	36–37
Table XXV—Ottawa	38–39
Table XXVI—Rideau	40–41
Table XXVII—Trent	42–43
Table XXVIII—St. Andrew's	44–45
Historical Tables, 1900 to 1921—	
Table XXIX—All Canals	45
Table XXX—Sault Ste. Marie	46–47
Table XXXI—Welland	46
Table XXXII—St. Lawrence	47
Table XXXIII—Chambly	48
Table XXXIV—St. Peter's	48
Table XXXV—Murray	49
Table XXXVI—Ottawa	49
Table XXXVII—Rideau	50
Table XXXVIII—Trent	50
Table XXXIX—St. Andrew's	51

TABLE DES MATIÈRES

PAGE

PRÉFACE 3–4

TABLEAUX

D'ENSEMBLE—
Tableau I—Saison de navigation 7
Tableau II—Situation et description des canaux 7

BATELLERIE—
Tableau III—Navires classifiés par tonnage 8–9

TRAFIC—
Tableau IV—Relevé des navires, des marchandises et des passagers, pour chaque canal 10–11
Tableau V—Fret transporté par chaque canal 12

EXPÉDITIONS DE GRAIN CANADIEN—
Tableau VI—Blé ayant passé par les canaux du Sault Ste-Marie 13
Tableau VII—Grain et farine ayant passé par les canaux du Sault Ste-Marie en 1921 13
Tableau VIII—Blé ayant passé par les canaux du Sault Ste-Marie, par mois et par destination 14–15
Tableau IX—Avoine ayant passé par les canaux du Sault Ste-Marie, par mois et par destination 14–15
Tableau X—Orge ayant passé par les canaux du Sault Ste-Marie, par mois et par destination 16–17
Tableau XI—Farine ayant passé par les canaux du Sault Ste-Marie, par mois et par destination 16–17

TAUX DU FRET PAR EAU—
Tableau XII—Sur l'orge et l'avoine, par mois 18
Tableau XIII—Sur le lin et le seigle, par mois 19
Tableau XIV—Sur le blé canadien, par mois 20
Tableau XV—Sur le blé canadien, 1917–1921 21

ETAT DÉTAILLÉ DU TRAFFIC DES CANAUX EN 1921—
Tableau XVI—Sault Ste-Marie, Canada et E.-U 21
Tableau XVII—Sault Ste-Marie (Voir 21) 22–23
Tableau XVIII—Welland 24–25
Tableau XIX—St-Laurent (direct et transbordement) 26–27
Tableau XX—St-Laurent (direct) 28–29
Tableau XXI—St-Laurent (transbordement) 30–31
Tableau XXII—Chambly 32–33
Tableau XXIII—St-Pierre 34–35
Tableau XXIV—Murray 36–37
Tableau XXV—Ottawa 38–39
Tableau XXVI—Rideau 40–41
Tableau XXVII—Trent 42–43
Tableau XXVIII—St-André 44–45

REVUE RÉTROSPECTIVE—1900 A 1921—
Tableau XXIX—Tous les canaux 45
Tableau XXX—Sault Ste-Marie 46–47
Tableau XXXI—Welland 46
Tableau XXXII—St-Laurent 47
Tableau XXXIII—Chambly 48
Tableau XXXIV—St-Pierre 48
Tableau XXXV—Murray 49
Tableau XXXVI—Ottawa 49
Tableau XXXVII—Rideau 50
Tableau XXXVIII—Trent 50
Tableau XXXIX—St-André 51

Table I—Season of Navigation, 1921
Tableau I—Saison de navigation de 1921

Canals — Canaux	First Vessel Passage — Passage du premier navire	Last Vessel Passage — Passage du dernier navire	Number of Days used — Durée de la saison, en jours
Sault Ste-Marie	April–Avril 9..	Dec. 16.....	252
Welland	" 15..	" 18.....	248
St. Lawrence	" 18..	" 14.....	241
Chambly	" 15..	Nov. 24.....	224
St. Peters	" 18..	Dec. 31.....	258
Murray	" 14..	" 5.....	236
Ottawa	" 19..	Nov. 24.....	220
Rideau	May–Mai 1..	" 29.....	213
Trent	April–Avril 5..	" 26.....	236
St. Andrew's	May–Mai 29..	Oct. 31.....	156

Table II—Canals of Canada
Tableau II—Canaux du Canada

Name — Nom	Location — Situation		Length in Miles — Longueur en en milles	Locks—Ecluses			
				Number — Nombre	Minimum Dimensions — Dimensions minimum		
					Length — Longueur	Width — Largeur	Depth — Profondeur
	From — De	To — À			Ft. — Pds	Ft. — Pds	Ft. — Pds
Sault Ste-Marie	St. Marys Rapids, 47 miles west of Lake Huron—Rapides Ste-Marie, 47 milles à l'ouest du lac Huron.		1·41	1	900	60	19·5
Welland	Port Dalhousie	Port Colborne	26·75	26	270	44	14
St Lawrence—							
Lachine	Montreal	Lachine	8·50	5	270	45	14
Soulanges	Cascades Point	Coteau Landing	14·00	5	280	45	15
Cornwall	Cornwall	Dickinsons Landing	11·00	6	270	45	14
Farran's Point	Farran's Point Rapid	Rapide de Farran's Point	1·25	1	800	50	14
Rapide Plat	Rapide Plat	Morrisburg	3·67	2	270	45	14
Galops	Iroquois	Cardinal	7·33	3	–	–	14
Chambly—							
St. Ours		St. Ours, Que	0·12	1	200	45	7
Chambly	Chambly	St. Jobns, Que	12·00	9	118	22·5	7
St. Peter's	St. Peters' Bay—	Bras d'Or Lakes, Cape Breton, N.S.					
	Baie St-Pierre.	Lacs du Bras d'Or, Cap Breton, N.E.	0·49	1	300	48	18
Murray	Isthmus of Murray—Isthme de Murray.	Bay of Quinte—Baie de Quinté	0·17	None Néant	–	–	12
Ottawa—							
Ste. Annes Lock—Ecluse Ste-Anne	Junction of St. Lawrence and Ottawa Rivers—Confluent du fleuve St-Laurent et de la rivière Ottawa		0·12	1	200	45	9
Carillon	Carillon rapids—Rapides de Carillon.	Ottawa River—Rivière Ottawa	0·75	2	200	45	9
Grenville	Long Sault Rapids—Rapides du Long Sault.	Ottawa River—Rivière Ottawa	5·75	5	200	45	9
Rideau	Ottawa	Kingstoa	126·25	47	134	33	5
Trent	Trenton	Peterboro Lock—Ecluse de Peterboro	89·00	18	175	33	8·3
	Peterboro Lock—Ecluse de Peterboro.	Lake Couchichiug—Lac Couchiching	114·6	23	134	33	6
	Sturgeon Lake—Lac l'Esturgeon.	Port Perry (Scugog Branch)—Port Perry (Bras de Scugog)	30·0	1	142	33	6
St. Andrew's	Red River, fifteen miles north of Winnipeg—Rivière Rouge, quinze milles au nord de Winnipeg		–	1	–	–	–

Table III—Classified Tonnage of all Vessels passed through the following Canals during 1921

SAULT STE. MARIE CANAL

CANADIAN VESSELS—BATELLERIE CANADIENNE

Steam Vessels — Vapeurs	Tons —	No. — Nomb.	Tonnage	Sailing Vessels — Voiliers	Tons —	No. — Nomb.	Tonnage
5,000 (to-à) 5,704	Tonnes	2	11,304	5,000 (to-à)	Tonnes	-	-
4,000 (to-à) 5,000	"	3	13,600	4,000 (to-à) 5,000	"	-	-
3,000 (to-à) 4,000	"	7	24,100	3,000 (to-à) 4,000	"	-	-
2,000 (to-à) 3,000	"	16	37,400	2,000 (to-à) 3,000	"	-	-
1,000 (to-à) 2,000	"	37	50,200	1,000 (to-à) 2,000	"	-	-
Under—Au-dessous de 1,000	"	75	7,320	Under—Au-dessous de 1,000	"	13	1,660
Total		140	143,924	Total		13	1,660

WELLAND CANAL

	Tons —				Tons —		
1,000 (to-à) 2,000	Tonnes	37	48,333	1,000 (to-à) 2,000	Tonnes	1	1,102
500 (to-à) 1,000	"	50	43,450	500 (to-à) 1,000	"	18	13,200
250 (to-à) 500	"	9	4,025	250 (to-à) 500	"	8	3,425
100 (to-à) 250	"	7	1,425	100 (to-à) 250	"	2	375
Under—Au-dessous de 100	"	45	1,740	Under—Au-dessous de 100	"	6	330
Total		148	98,973	Total		35	18,342

ST. LAWRENCE CANAL

	Tons —				Tons —		
2,000 (to-à) 2,208	Tonnes	1	2,208	2,000 (to-à) 2,500	Tonnes	1	2,500
1,000 (to-à) 2,000	"	56	69,500	1,000 (to-à) 2,000	"	1	1,150
500 (to-à) 1,000	"	50	40,750	500 (to-à) 1,000	"	27	19,550
250 (to-à) 500	"	8	3,400	250 (to-à) 500	"	46	17,550
100 (to-à) 250	"	18	3,325	100 (to-à) 250	"	66	10,525
Under—Au-dessous de 100	"	75	3,235	Under—Au-dessous de 100	"	52	3,585
Total		208	122,410	Total		193	54,860

ST. PETER'S, CHAMBLY, OTTAWA, RIDEAU, MURRAY AND TRENT CANALS

	Tons —				Tons —		
1,000 (to-à) 1,500	Tonnes	1	1,350	1,000 (to-à) 1,500	Tonnes	2	2,200
500 (to-à) 1,000	"	1	900	500 (to-à) 1,000	"	1	550
250 (to-à) 500	"	9	2,875	250 (to-à) 500	"	8	2,975
100 (to-à) 250	"	18	2,625	100 (to-à) 250	"	97	13,755
50 (to-à) 100	"	28	1,870	50 (to-à) 100	"	84	6,100
Under—Au-dessous de 50	"	232	2,250	Under—Au-dessous de 50	"	122	2,760
Total		289	11,870	Total		314	28,340

Tableau III—Classification du tonnage de toutes les embarcations passées par les canaux suivants, en 1921

CANAL DU SAULT STE-MARIE

UNITED STATES VESSELS—BATELLERIE DES ETATS-UNIS

Steam Vessels — Vapeurs		No. — Nomb.	Tonnage	Sailing Vessels — Voiliers		No. — Nomb.	Tonnage
Tons —				Tons —			
5,000 (to-à) 6,000	Tonnes	28	153,000	5,000 (to-à)	Tonnes	-	-
4,000 (to-à) 5,000	"	22	102,900	4,000 (to-à) 5,000	"	-	-
3,000 (to-à) 4,000	"	27	97,100	3,000 (to-à) 4,000	"	-	-
2,000 (to-à) 3,000	"	9	23,400	2,000 (to-à) 3,000	"	-	-
1,000 (to-à) 2,000	"	4	7,150	1,000 (to-à) 2,000	"	-	-
Under—Au-dessous de 1,000	"	27	13,770	Under—Au-dessous de 1,000	"	9	1,840
Total		117	397,320	Total		9	1,840

WELLAND CANAL

Tons —				Tons —			
1,000 (to-à) 2,000	Tonnes	10	13,160	1,000 (to-à) 2,000	Tonnes	-	-
500 (to-à) 1,000	"	17	12,250	500 (to-à) 1,000	"	1	550
250 (to-à) 500	"	11	4,375	250 (to-à) 500	"	-	-
100 (to-à) 250	"	12	2,425	100 (to-à) 250	"	2	475
Under—Au-dessous de 100	"	32	1,225	Under—Au-dessous de 100	"	5	320
Total		82	33,435	Total		8	1,345

CANAL DU ST-LAURENT

Tons —				Tons —			
2,000 (to-à)	Tonnes	-	-	2,000 (to-à)	Tonnes	-	-
1,000 (to-à) 2,000	"	11	13,809	1,000 (to-à) 2,000	"	-	-
500 (to-à) 1,000	"	13	9,300	500 (to-à) 1,000	"	1	878
250 (to-à) 500	"	6	2,175	250 (to-à) 500	"	-	-
100 (to-à) 250	"	9	1,525	100 (to-à) 250	"	12	1,800
Under—Au-dessous de 100	"	12	610	Under—Au-dessous de 100	"	54	5,175
Total		51	27,419	Total		67	7,853

CANAUX ST-PIERRE, CHAMBLY, OTTAWA, RIDEAU, MURRAY ET TRENT

Tons "				Tons —			
1,000 (to-à) 1,500	Tonnes	-	-	1,000 (to-à) 1,500	Tonnes	-	-
500 (to-à) 1,000	"	-	-	500 (to-à) 1,000	"	-	-
250 (to-à) 500	"	-	-	250 (to-à) 500	"	1	250
100 (to-à) 250	"	2	300	100 (to-à) 250	"	322	34,350
50 (to-à) 100	"	2	120	50 (to-à) 100	"	5	450
Under—Au-dessous de 50	"	28	300	Under—Au-dessous de 50	"	7	55
Total		32	720	Total		335	35,105

Table IV—Total Traffic through the Canadian Canals during 1921

Commodities	Sault Ste. Marie	Welland	St. Lawrence	Chambly	St. Peter's	Murray
VESSELS	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes
Canadian Vessels—Steam	2,632,525	2,510,304	3,197,878	43,743	32,542	37,396
Canadian Vessels—Sail	43,795	250,924	741,355	15,126	43,785	20,330
United States Vessels—Steam	1,109,388	562,225	529,975	17	547	1,087
United States Vessels—Sail	5,684	5,918	15,635	87,914	151	58
Total	3,791,392	3,329,371	4,484,843	146,800	77,025	58,871
Number of Vessels	3,863	3,770	9,210	1,238	1,117	485
Number of Passengers	42,767	–	56,905	1,149	757	7,104
FREIGHT	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes
Agricultural Products—						
Barley	112,634	53,619	58,062	–	–	–
Buckwheat	–	1,673	3	–	–	–
Corn	19,805	758,383	773,671	48	–	–
Oats	318,438	138,934	141,054	136	215	–
Rye	18,012	50,188	50,188	–	–	–
Flax	20,818	9,660	10,210	–	–	–
Peas	–	–	26	–	–	–
Wheat	458,944	859,486	852,780	–	2	–
Flour	446,910	2,000	4,149	575	1,882	–
Hay	–	–	4,034	4,232	586	–
Other mill products	41,069	–	783	309	1,053	–
Fruits and vegetables	498	–	1,506	291	891	–
Potatoes	–	–	347	21	5,189	–
Total	1,437,128	1,873,943	1,896,813	5,612	9,818	–
Animal Products—						
Live stock	–	–	454	96	14	–
Poultry, game and fish	302	–	40	78	2,529	–
Dressed meats	–	–	3	–	23	–
Other packing house products	695	–	1,073	492	133	–
Hides and leather	–	–	14	–	1	–
Wool	15	–	2	–	–	–
Animal products, all other	–	–	3,625	87	1	–
Total	1,012	–	5,211	753	2,701	–
Manufactures—						
Agricultural implements	9,360	9,482	480	117	–	–
Cement, bricks and lime	9,545	1,930	4,117	55	1,548	–
Household goods and furnitures	7	–	2,545	351	5	–
Iron—Pig and bloom	1,395	3,718	2,399	–	25	–
Iron and steel, all other	10,148	21,500	33,962	1,262	208	–
Petroleum and other oils	671	104,415	132,366	142	320	–
Sugar	14,513	11,379	29,987	771	18	–
Salt	7,105	–	1,565	60	959	–
Wines, liquors and beers	125	116	2,358	98	–	–
Merchandise—not enumerated	205,658	52,149	85,865	6,660	3,784	780
Total	258,527	204,689	295,644	9,516	6,867	780
Products of Forest—						
Pulpwood	5,970	150,428	299,425	18,344	–	–
Sawed lumber	35,906	4,653	55,298	47,086	347	–
Squared lumber	1,330	–	1,657	1,658	–	–
Shingles	2,097	–	202	540	–	–
Other woods	577	–	6,830	3,958	144	75
Total	45,880	155,081	363,412	71,586	491	75
Products of Mines—						
Hard coal	10,998	13,130	228,816	84,663	107	–
Soft coal	92,203	760,137	763,576	–	34,443	35
Coke	–	4,700	4,700	802	–	–
Copper ore	6,018	1,561	1,561	–	–	–
Iron ore	127,615	–	–	–	–	–
Other ore	2,241	2,241	3,238	1,717	110	–
Sand, etc	16,060	60,940	171,094	5,631	1,586	44,390
Total	255,045	842,709	1,172,985	92,813	36,246	44,425
Grand Total	1,997,592	3,076,422	3,734,065	180,280	56,123	45,280

Tableau IV—Volume du trafic par les canaux canadiens en 1921

Ottawa	Rideau	Trent	St. Andrews	Total	Compared with 1920 — Comparé avec 1920 Increase — Augmentation	Decrease — Diminution	Nomenclature
Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	NAVIRES
63,806	82,222	123,763	18,694	8,742,873	1,833,665	-	Navires canadiens, à vapeur.
165,663	17,610	29,107	8,820	1,336,515	-	275,920	Navires canadiens, à voiles.
-	-	245	-	2,203,484	-	1,357,337	Navires des Etats-Unis, à vapeur.
11,130	204	-	-	126,694	-	151,375	Navires des Etats-Unis, à voiles.
240,599	100,036	153,115	27,514	12,409,566	49,033	-	Total.
1,807	1,443	5,222	534	28,689	-	-	Nombre de navires.
2,712	11,484	100,049	7,202	230,129	-	339	Nombre de passagers.
Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	MARCHANDISES
							Produits agricoles—
-	-	-	-	224,315	49,929	-	Orge.
3	-	50	-	1,729	1,718	-	Sarrasin.
37	3	-	-	1,551,947	1,532,715	-	Maïs.
204	5	80	-	599,066	442,409	-	Avoine.
-	-	-	-	118,388	39,423	-	Seigle.
-	-	-	-	40,688	9,654	-	Lin.
25	24	53	-	128	109	-	Pois.
38	-	1,192	-	2,172,442	923,579	-	Blé.
482	82	13	-	456,093	203,941	-	Farine.
989	436	11	-	10,288	-	16,269	Foin.
559	327	23	-	44,123	39,733	-	Autres produits des meuneries.
298	57	6	2	3,549	-	488	Fruits et légumes.
275	144	36	-	6,012	1,355	-	Pommes de terre.
2,910	1,078	1,464	2	5,228,768	3,227,808	-	Total.
							Produits des animaux—
297	4	126	1	992	-	159	Animaux vivants.
35	-	-	-	2,984	1,140	-	Volaille, gibier et poisson.
3	1	-	-	30	16	-	Viandes abattues.
159	214	-	-	2,766	675	-	Autres produits des fabricants de conserves.
2	1	-	-	18	-	15	Peaux et cuir.
-	-	-	-	17	-	36	Laine.
1,980	1,157	39	-	6,889	34	-	Tous autres produits des animaux.
2,476	1,377	165	1	13,696	1,655	-	Total.
							Manufactures—
101	58	23	136	19,757	14,003	-	Instruments aratoires.
448	358	299	-	18,300	-	33,746	Ciment, briques, chaux.
269	127	113	-	3,417	-	28	Meubles et objets mobiliers.
147	96	24	2	7,806	-	4,610	Fer en gueuse et en saumon.
1,357	1,310	60	-	69,807	35,479	-	Tous autres fer et acier.
605	400	74	-	238,993	64,850	-	Pétrole et autres huiles.
1,259	753	1	-	58,681	41,601	-	Sucre.
749	473	-	-	10,911	-	3,224	Sel.
1,730	702	3	-	5,132	-	1,060	Vins, liqueurs et bières.
13,102	9,920	1,600	317	379,835	-	59,528	Marchandises non énumérées.
19,767	14,197	2,197	455	812,639	53,737	-	Total.
							Produits forestiers—
-	1,072	15,802	-	491,041	-	241,621	Bois à pulpe.
41,453	2,070	3,467	2,950	192,230	-	140,543	Bois de construction scié.
2,837	955	3,028	-	11,465	3,198	-	Bois équarri.
131	6	230	8	3,214	-	1,494	Bardeaux.
6,268	510	17,328	2,772	38,462	-	11,192	Autres bois.
50,689	4,613	39,855	5,730	737,412	-	391,652	Total.
							Produits miniers—
805	2,999	94	-	341,522	-	19,013	Houille anthracite.
1,191	55	100	-	1,651,740	-	1,386,277	Houille bitumineuse.
-	-	-	-	10,202	7,742	-	Coke.
-	-	-	-	9,140	1,064	-	Minerais de cuivre.
-	-	-	-	127,615	-	730,569	Minerais de fer.
-	-	-	-	9,547	8,137	-	Autres minerais.
93,931	70,693	372	43	464,740	-	100,994	Sable, etc.
95,927	73,747	566	43	2,614,506	-	2,219,910	Total.
171,769	95,012	44,247	6,231	9,407,021	671,638	-	Grand total.

Table V—Total Freight Through Canadian Canals during 1921
Tableau V—Cargaisons transportées sur les canaux canadiens en 1921

Canals — Canaux	Origin — Origine: Canada — Canada		Origin: United States — Etats-Unis		Transported in — Transportées dans: Canadian Vessels — Navires canadiens		Transported in: United States Vessels — Navires des E.-U.	
	Tons — Tonnes	Per cent of total	Tons — Tonnes	Per cent of total	Tons — Tonnes	Per cent of total	Tons — Tonnes	Per cent of total
Sault Ste. Marie	1,483,444	74·26	514,148	25·74	1,510,995	75·64	486,597	24·36
Welland	1,036,410	33·69	2,040,012	66·31	503,745	16·38	2,572,677	83·62
St. Lawrence	1,547,743	41·45	2,186,322	58·55	3,222,837	86·31	511,228	13·69
Chambly	82,421	45·72	97,859	54·28	24,685	13·69	155,595	86·31
St. Peter's	56,123	100·00	–	–	56,123	100·00	–	–
Murray	45,280	100·00	–	–	45,280	100·00	–	–
Ottawa	168,278	97·97	3,491	2·03	155,856	90·74	15,913	9·26
Rideau	92,015	96·85	2,997	3·15	94,752	99·73	260	0·27
Trent	44,083	99·63	164	0·37	44,247	100·00	–	–
St. Andrew's	6,231	100·00	–	–	6,231	100·00	–	–
Total Canadian Canals	4,562,028	48·50	4,844,993	51·50	5,664,751	60·22	3,742,270	39·78
*Sault Ste. Marie, Can. and U.S. Locks	6,753,413	13·98	41,505,841	86·02	5,242,989	10·86	43,016,265	89·14

	From Canadian to Canadian Ports — De ports canadiens à ports canadiens: Up — En montant	Down — En descendant	From Canadian to United States Ports — De ports canadiens à ports des E.-U.: Up — En montant	Down — En descendant	From United States to United States Ports — De ports des E.-U. à ports des E.-U.: Up — En montant	Down — En descendant	From United States to Canadian Ports — De ports des E.-U. à ports canadiens: Up — En montant	Down — En descendant
	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes
Sault Ste. Marie	208,104	1,187,064	2,241	87,161	56,150	354,023	83,029	19,820
Welland	198,064	1,626,441	61,297	–	12,592	7,123	4,224	1,166,681
St. Lawrence	398,440	1,758,958	217,446	15,349	750	–	3,759	1,339,363
Chambly	4,008	7,248	70,335	830	–	–	–	97,859
St. Peter's	13,283	42,840	–	–	–	–	–	–
Murray	44,960	320	–	–	–	–	–	–
Ottawa	14,593	140,501	–	13,184	–	–	3,491	–
Rideau	64,050	28,593	3	–	–	–	–	2,366
Trent	14,442	29,805	–	–	–	–	–	–
St. Andrew's	5,892	339	–	–	–	–	–	–
Total Canadian Locks	965,836	4,822,109	351,322	116,524	69,492	361,146	94,503	2,626,089
*Sault Ste. Marie, Can. and U.S. Locks	374,821	3,453,105	2,241	2,923,246	12,878,947	25,228,523	2,889,997	508,371

—	Total Up — Total en montant	Total Down — Total en descendant	Grand Total — Grand total
	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes
Sault Ste. Marie	319,524	1,648,068	1,997,592
Welland	276,177	2,800,245	3,076,422
St. Lawrence	620,395	3,113,670	3,734,065
Chambly	74,343	105,937	180,280
St. Peter's	13,283	42,840	56,123
Murray	44,960	320	45,280
Ottawa	18,084	153,685	171,769
Rideau	64,053	30,959	95,012
Trent	14,442	29,805	44,247
St. Andrew's	5,892	339	6,231
Total Canadian Canals	1,481,153	7,925,868	9,407,021
*Sault Ste. Marie, Can. and U.S. Locks	16,146,006	32,113,248	48,259,254

*From United States Official report.—*D'après le rapport officiel des Etats-Unis.

Table VI—Canadian Wheat through the Canadian and American Canals at Sault Ste. Marie

Tableau VI—Blé canadien transporté sur les canaux canadien et américain du Sault Ste-Marie

To— — Pour—	Montreal — Montréal	Georgian Bay — Baie Georgienne	Other Canadian Ports — Autres ports canadiens	Baffalo and other U.S. Ports — Buffalo et autres ports des E.-U.	Total	Percentage through Canadian Canal — Pourcentage par le canal canadien	Percentage through U.S. Canal — Pourcentage par le canal américain
	Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux	—	—
1913	15,186,632	26,054,001	28,973,333	71,512,933	141,726,899	71·31	28·69
1914	10,283,166	24,864,467	34,350,699	25,533,734	95,032,066	81·52	18·48
1915	4,025,010	25,315,999	33,067,613	107,709,239	170,117,861	28·64	71·36
1916	1,686,482	48,007,361	28,029,847	107,279,977	185,003,667	44·76	55·24
1917	1,280,170	52,453,042	31,369,487	73,471,563	158,574,262	38·18	61·82
1918	728,500	38,774,391	20,638,204	2,158,176	62,299,271	32·08	67·92
1919	563,003	53,793,931	33,090,288	4,127,614	91,574,836	23·00	77·00
1920	849,151	34,494,678	20,743,069	53,880,995	109,967,883	13·36	86·64
1921	933,036	38,322,605	30,252,063	83,962,553	153,470,257	9·02	90·98

" Other Canadian Ports " refers chiefly to Port Colborne and Goderich, for details, see pages 14–15.
«Autres ports canadiens » se rapporte principalement à Port-Colborne et Goderich. Pour détails, voir pages 14–15.

Table VII—Canadian Grain and Flour through the Canadian and American Canals at Sault Ste. Marie, during 1921

Tableau VII—Grain et farine canadiens transportés sur les canaux canadien et américain du Sault Ste-Marie, en 1921

From Fort William and Port Arthur — De Fort-William et Port-Arthur	Canadian Canal — Canal canadien	Percentage — Pourcentage	American Canal — Canal américain	Percentage — Pourcentage	Total	Percentage in Canadian Bottoms — Pourcentage de la batellerie canadienne	Percentage in United States Bottoms — Pourcentage de la batellerie des Etats-Unis
	Bushels — Boisseaux		Bushels — Boisseaux		Bushels — Boisseaux		
Wheat—Blé	13,758,718	9·02	138,797,773	90·98	152,556,491	48·44	51·56
Oats—Avoine	18,714,199	41·43	26,460,519	58·57	45,174,718	88·35	11·65
Barley—Orge	4,138,065	34·81	7,749,796	65·19	11,887,861	79·82	20·18
Rye—Seigle	253,071	10·33	2,197,216	89·67	2,450,287	36·03	63·97
Flax—Lin	690,539	18·11	3,123,396	81·89	3,813,935	35·53	64·47
*Flour—Farine	14,034,217	96·71	477,315	3·29	14,511,532	100·00	–
From Duluth and Superior— De Duluth et Superieur—							
Barley—Orge	–	–	52,742	100·00	52,742	–	100·00
Wheat—Blé	80,000	8·75	833,766	91·25	913,766	–	100 00
Total[1]	51,668,809	19·02	179,692,523	80·98	231,361,332	56·98	43·02

*3,118,715 barrels of Canadian Flour went through the Canadian Canal and 106,070 barrels through the American Canal making an aggregate of 3,224,785 barrels, equivalent to 14,511,532 bushels of wheat at 4½ bushels to a barrel.
*3,118,715 barils de farine canadienne ont passé par le canal canadien et 106,070 barils par le canal américain, soit au total 3,224,785 barils, équivalant à 14,511,532 boisseaux de blé, à raison de 4½ boisseaux au baril.
[1]Reduced to tons to compute per cents.
[1]Réduit en tonnes pour calculer le pourcentage.

Table VIII—Canadian Wheat through the Sault Ste. Marie Canals, during 1921

1921	April — Avril	May — Mai	June — Juin	July — Juillet	August — Août
	Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux
CANADIAN CANAL					
Fort William-Port Arthur to Montreal	160,818	103,107	94,644	221,700	85,593
Fort William-Port Arthur to Georgian Bay	243,103	826,004	544,659	591,437	652,469
*Fort William-Port Arthur to Other Canadian Ports	441,970	350,849	681,449	393,508	411,208
Fort William-Port Arthur to Buffalo and other U.S. Ports.	–	100,000	–	203,000	60,000
Total	845,891	1,379,960	1,320,752	1,409,645	1,209,270
Duluth-Superior to Buffalo	–	–	–	–	–
Grand Total	845,891	1,379,960	1,320,752	1,409,645	1,209,270
AMERICAN CANAL					
Fort William-Port Arthur to Montreal	–	–	–	–	–
Fort William-Port Arthur to Georgian Bay	929,660	2,926,066	1,736,816	1,519,000	2,788,430
*Fort William-Port Arthur to Other Canadian Ports	1,700,758	3,030,667	3,921,128	1,697,051	1,268,579
Fort William-Port Arthur to Buffalo and other U.S. Ports.	3,701,350	2,955,934	1,007,218	668,083	84,405
Total	6,331,768	8,912,667	6,665,162	3,884,134	4,141,414
Duluth-Superior to Georgian Bay	–	–	–	–	53,499
Duluth-Superior to Buffalo	–	–	–	77,708	–
Grand Total	6,331,768	8,912,667	6,665,162	3,961,842	4,194,913
CANADIAN AND AMERICAN CANALS					
Fort William-Port Arthur to Montreal	160,818	103,107	94,644	221,700	85,593
Fort William-Port Arthur to Georgian Bay	1,172,763	3,752,070	2,281,475	2,110,437	3,440,899
*Fort William-Port Arthur to Other Canadian Ports	2,142,728	3,381,516	4,602,577	2,090,559	1,679,787
Fort William-Port Arthur to Buffalo and other U.S. Ports.	3,701,350	3,055,934	1,007,218	871,083	144,405
Total	7,177,659	10,292,627	7,985,914	5,293,779	5,350,684
Duluth-Supérior to Georgian Bay	–	–	–	–	53,499
Duluth-Superior to Buffalo	–	–	–	77,708	–
Grand Total	7,177,659	10,292,627	7,985,914	5,371,487	5,404,183

*Includes 2,097,277 bushels through Canadian Canal and 7,158,866 bushels through American Canal, destined Goderich.

Table IX—Canadian Oats through the Sault Ste. Marie Canals, during 1921

1921	April — Avril	May — Mai	June — Juin	July — Juillet	August — Août
	Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux
CANADIAN CANAL					
Fort William-Port Arthur to Montreal	629,411	541,274	168,318	41,509	375,656
Fort-William-Port Arthur to Georgian Bay	279,378	1,132,795	3,004,565	2,484,563	1,162,671
*Fort William-Port Arthur to Other Canadian Ports	58,867	340,777	392,825	289,650	1,437,730
Fort William-Port Arthur to Buffalo and other U.S. Ports.	–	348,412	–	–	–
Total	967,656	2,363,258	3,475,708	2,815,722	2,976,057
AMERICAN CANAL					
Fort William-Port Arthur to Montreal	–	–	–	–	–
Fort William-Port Arthur to Georgian Bay	344,403	2,200,763	2,634,780	2,534,513	1,343,830
*Fort William-Port Arthur to Other Canadian Ports	1,51 ,934	2,559,371	652,871	412,024	800,941
Fort William-Port Arthur to Buffalo and other U.S. Ports.	801,735	1,404,783	698,431	–	–
Total	2,657,072	6,164,917	3,986,082	2,946,537	2,144,771
CANADIAN AND AMERICAN CANALS					
Fort William-Port Arthur to Montreal	629,411	541,274	168,318	41,509	375,656
Fort William-Port Arthur to Georgian Bay	1,623,781	3,333,558	5,639,345	5,019,076	2,506,501
Fort William-Port Arthur to Other Canadian Ports	569,801	2,900,148	955,696	701,674	2,238,671
Fort William-Port Arthur to Buffalo and other U.S. Ports.	801,735	1,753,195	698,431	–	–
Grand Total	3,624,728	8,528,175	7,461,790	5,762,259	5,120,828

*Includes 3,200,895 bushels through Canadian Canal and 2,842,582 bushels through the American Canal destined Goderich.

Tableau VIII—Blé canadien ayant passé par les canaux du Sault Ste-Marie en 1921

September — Septembre	October — October	November — Novembre	December — Décembre	Total	1921
Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux	
					CANAL CANADIEN
80,000	113,674	73,500	–	933,036	Fort-William-Port Arthur à Montréal.
851,051	858,451	866,864	444,763	5,878,801	Fort-William-Port-Arthur à la baie Georgienne.
657,289	1,427,942	444,500	177,895	4,986,610	Fort-William-Port-Arthur à d'autres ports canadiens.
–	1,392,322	100,000	104,949	1,960,271	Fort-William-Port-Arthur à Buffalo et autres ports des E.-U.
1,588,340	3,792,389	1,484,864	727,607	13,758,718	Total.
–	–	–	80,000	80,000	Duluth-Supérieur à Buffalo.
1,588,340	3,792,389	1,484,864	807,607	13,838,718	Grand total.
					CANAL AMÉRICAIN
–	–	–	–	–	Fort-William-Port-Arthur à Montréal.
3,513,205	6,648,314	8,241,066	4,087,748	32,390,305	Fort-William-Port-Arthur à la baie Georgienne.
2,652,445	5,120,252	4,505,943	1,368,630	25,265,453	Fort-William-Port-Arthur à d'autres ports canadiens.
7,686,106	17,408,432	32,307,974	15,322,513	81,142,015	Fort-William-Port-Arthur à Buffalo et autres ports des E.-U.
13,851,756	29,176,998	45,054,983	20,778,891	138,797,773	Total.
–	–	–	–	53,499	Duluth-Supérieur à la baie Georgienne.
364,925	88,934	156,902	91,798	789,267	Duluth-Supérieur à Buffalo.
14,216,681	29,265,932	45,211,885	20,870,689	139,631,539	Grand total.
					CANAUX CANADIEN ET AMÉRICAIN
80,000	113,674	73,500	–	933,036	Fort-William-Port-Arthur à Montréal.
4,364,256	7,506,765	9,107,930	4,532,511	38,269,106	Fort-William-Port-Arthur à la baie Georgienne.
3,309,734	6,548,194	4,950,443	1,546,525	30,252,663	*Fort-William-Port-Arthur à d'autres ports canadiens.
7,686,106	18,800,754	32,407,974	15,427,462	83,102,286	Fort-William-Port-Arthur à Buffalo et autres ports des E.-U.
15,440,096	32,969,387	46,539,847	21,506,498	152,556,491	Total.
–	–	–	–	53,499	Duluth-Supérieur à la baie Georgienne.
364,925	88,934	156,902	171,798	869,267	Duluth Supérieur à Buffalo.
15,805,021	33,058,321	46,696,749	21,678,296	153,470,257	Grand total.

*Y compris 2,097,277 boisseaux passés par le canal canadien et 7,158,866 boisseaux par le canal américain, à destination de Goderich.

Tableau IX—Avoine canadienne ayant passé par les canaux du Sault Ste-Marie en 1921

September — Septembre	October — Octobre	November — Novembre	December — Décembre	Total	1921
Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux	
					CANAL CANADIEN
218,086	254,725	211,418	–	2,440,397	Fort-William-Port-Arthur à Montréal.
1,172,645	460,795	1,158,192	416,020	11,271,624	Fort-William-Port-Arthur à la Baie Georgienne.
801,752	423,061	385,944	408,250	4,448,856	Fort-William-Port-Arthur à d'autres ports canadiens.
–	–	–	204,910	–	Fort-William-Port-Arthur à Buffalo et autres ports des E.-U.
2,192,483	1,138,581	1,755,554	1,029,180	18,714,199	Total.
					CANAL AMERICAIN
–	–	–	–	–	Fort-William-Port-Arthur à Montréal.
745,591	55,000	2,175,886	1,324,233	13,358,999	Fort-William-Port-Arthur à la baie Georgienne.
1,100,926	250,787	688,843	217,657	8,194,354	Fort-William-Port-Arthur à d'autres ports canadiens.
–	–	1,268,782	733,435	4,907,166	Fort-William-Port-Arthur à Buffalo et autres ports des E.-U.
1,846,517	305,787	4,133,511	2,275,325	26,460,519	Total.
					CANAUX CANADIEN ET AMERICAIN
218,086	254,725	211,418	–	2,440,397	Fort-William-Port-Arthur à Montréal.
1,918,236	515,795	3,334,078	1,740,253	25,630,623	Fort-William-Port-Arthur à la Baie Georgienne.
1,902,678	673,848	1,074,787	625,907	11,643,210	Fort-William-Port-Arthur à d'autres ports canadiens.
–	–	1,268,782	938,345	5,469,488	Fort-William-Port-Arthur à Buffalo et autres ports des E.-U.
4,039,000	1,444,368	5,889,065	3,304,505	45,174,718	

*Comprend 3,200,895 boisseaux par le canal canadien et 2,842,582 par le canal américain destinés à Goderich.

Table X—Canadian Barley through the Sault Ste. Marie Canals during 1921

1921	April — Avril	May — Mai	June — Juin	July — Juillet	August — Août
	Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux
CANADIAN CANAL					
Fort William-Port Arthur to Montreal	94,094	66,500	50,000	128,117	85,000
Fort William-Port Arthur to Georgian Bay	–	432,930	432,023	580,052	352,972
Fort William-Port Arthur to Other Canadian Ports	–	–	–	–	–
Fort William-PortArthur to Buffalo and other U.S. Ports.	–	–	–	137,840	54,862
Total	94,094	499,430	482,023	846,009	492,834
AMERICAN CANAL					
Fort William-Port Arthur to Montreal	–	–	–	–	–
Fort William-Port Arthur to Georgian Bay	129,500	342,000	341,919	495,141	306,456
Fort William-Port Arthur to Other Canadian Ports	464,728	216,510	174,476	–	63,652
Fort William-Port Arthur to Buffalo and other U.S. Ports.	582,748	504,260	95,555	147,807	–
Total	1,176,976	1,062,770	611,950	642,948	370,108
Duluth-Superior to Buffalo	–	–	–	–	–
Grant Total	1,176,976	1,062,770	611,950	642,948	370,108
CANADIAN AND AMERICAN CANALS					
Fort William-Port Arthur to Montreal	94,094	66,500	50,000	128,117	85,000
Fort-William-Port Arthur to Georgian Bay	129,500	774,930	773,942	1,075,193	659,428
Fort William-Port Arthur to Other Canadian Ports	464,728	216,510	174,476	–	63,652
Fort William-Port Arthur to Buffalo and other U.S. Ports.	582,748	504,260	95,555	285,647	54,862
Total	1,271,070	1,562,200	1,093,973	1,488,957	862,942
Duluth-Superior to Buffalo	–	–	–	–	–
Grand Total	1,271,070	1,562,200	1,093,973	1,488,957	862,942

Table XI—Canadian Flour through the Sault Ste. Marie Canals during 1921

1921	May — Mai	June — Juin	July — Juillet	August — Août	September — Septembre
	Barrels — Barils	Barrels — Barils	Barrels — Barils	Barrels — Barils	Barrels — Barils
CANADIAN CANAL					
Fort William-Port Arthur to Montreal	8,700	–	–	–	–
Fort William-Port Arthur to Port McNicoll	193,660	293,230	271,240	240,890	259,495
Fort William-Port Arthur to Pt. Edward	62,590	100,740	134,950	117,620	133,060
Total	264,950	393,970	406,190	358,510	392,555
AMERICAN CANAL					
Fort William-Port Arthur to Pt. McNicoll	–	14,710	13,450	–	8,080
Fort William-Port Arthur to Pt. Edward	–	11,090	–	–	–
Total	–	25,800	13,450	–	8,080
CANADIAN AND AMERICAN CANALS					
Fort William-Port Arthur to Montreal	8,700	–	–	–	–
Port William-Port Arthur to Pt. McNicoll	193,660	307,940	284,690	240,890	267,575
Fort William-Port Arthur to Pt. Edward	62,590	111,830	134,950	117,620	133,060
Grand Total	264,950	419,770	419,640	358,510	400,635

Tableau X—Orge canadienne passée par les canaux du Sault Ste-Marie en 1921

September — Septembre	October — Octobre	November — Novembre	December — Décembre	Total	1921
Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux	Bushels — Boisseaux	
					CANAL CANADIEN
46,078	138,000	–	–	607,789	Fort William–Port Arthur à Montréal.
369,278	346,121	354,215	212,480	3,080,071	Fort William–Port-Arthur à la Baie Georgienne.
119,544	137,959	–	–	257,503	Fort-William–Port-Arthur à d'autres ports canadiens.
–	–	–	–	192,702	Fort-William–Port-Arthur à Buffalo et autres ports des E.-U.
534,900	622,080	354,215	212,480	4,138,065	Total.
					CANAL AMÉRICAIN
–	–	–	–	–	Fort-William–Port-Arthur à Montréal.
495,279	582,533	626,006	712,915	4,031,749	Fort-William–Port-Arthur à la Baie Georgienne.
282,738	–	204,900	–	1,407,004	Fort-William–Port-Arthur à d'autres ports canadiens.
320,785	142,617	362,071	155,200	2,311,043	Fort-William–Port-Arthur à Buffalo et autres ports de E.-U.
1,098,802	725,150	1,192,977	868,115	7,749,796	Total.
1,644	51,098	–	–	52,742	Duluth–Supérieur à Buffalo.
1,100,446	776,248	1,192,977	868,115	7,802,538	Grand Total.
					CANAUX CANADIEN ET AMÉRICAIN
46,078	138,000	–	–	607,789	Fort-William–Port-Arthur à Montréal.
864,557	928,654	980,221	925,395	7,111,820	Fort-William–Port-Arthur à la Baie Georgienne.
402,282	137,959	204,900	–	1,664,507	Fort-William–Port Arthur à d'autres ports canadiens.
320,785	142,617	362,071	155,200	2,503,745	Fort-William–Port-Arthur à Buffalo et autres ports des E.-U.
1,633,702	1,347,230	1,547,192	1,080,595	11,887,861	Total.
1,644	51,098	–	–	52,742	Duluth–Supérieur à Buffalo.
1,635,346	1,398,328	1,547,192	1,080,595	11,940,603	Grand total.

Tableau XI—Farine canadienne ayant passé par les canaux du Sault Ste-Marie en 1921

October — Octobre	November — Novembre	Décember — Décembre	Total	1921
Barrels — Barils	Barrels — Barils	Barrels — Barils	Barrels — Barils	
				CANAL CANADIEN
–	–	–	8,700	Fort-William–Port-Arthur à Montréal.
395,750	417,120	54,130	2,125,515	Fort-William–Port-Arthur à Pt. McNicoll.
166,370	209,690	59,480	984,500	Fort-William–Port-Arthur à Pt. Edward.
562,120	626,810	113,610	3,118,715	Total.
				CANAL AMÉRICAIN
17,560	–	18,180	71,980	Fort-William–Port-Arthur à Pt. McNicool.
23,000	–	–	34,090	Fort-William–Port-Arthur à Pt. Edward.
40,560	–	18,180	106,070	Total.
				CANAUX CANADIEN ET AMÉRICAIN
–	–	–	8,700	Fort-William–Port-Arthur à Montréal.
413,310	417,120	72,310	2,197,495	Fort-William–Port-Arthur à Pt. McNicoll.
189,370	209,690	59,480	1,018,590	Fort-William–Port-Arthur à Pt. Edward.
602,680	626,810	131,790	3,224,785	Grand total.

Table XII—Freight Rates by Water on Barley and Oats during 1921

Tableau XII—Tarifs des transports par eau sur l'orge et l'avoine en 1921

Fort-William-Port Arthur to—à	Barley — Orge			Oats — Avoine		
	Average rate per bushel — Moyenne par boisseau	Average rate per ton — Moyenne par tonne	Average rate per ton-mile — Moyenne par tonne-mille	Average rate per bushel — Moyenne par boisseau	Average rate per ton — Moyenne par tonne	Average rate per ton-mile — Moyenne par tonne-mille
	cents	$	cent	cents	$	cent
Montreal—Montréal—						
April—Avril	11·00	4·58	0·372	8·19	4·82	0·392
May—Mai	10·00	4·16	0·339	7·58	4·46	0·363
June—Juin	10·12	4·22	0·343	7·43	4·37	0·356
July—Juillet	9·80	4·08	0·332	7·25	4·26	0·347
August—Août	9·57	3·99	0·270	7·06	4·16	0·338
September—Septembre	9·50	3·96	0·322	7·41	4·36	0·355
October—Octobre	10·13	4·22	0·343	8·00	4·70	0·382
November—Novembre	–	–	–	8·00	4·70	0·382
December—Décembre	–	–	–	–	–	–
Average—Moyenne	10·06	4·20	0·342	7·67	4·51	0·367
Goderich and Georgian Bay—Goderich et la Baie Georgienne—						
April—Avril	2·42	1·01	0·188	2·06	1·21	0·225
May—Mai	2·18	0·90	0·167	1·78	1·05	0·195
June—Juin	2·15	0·89	0·165	1·62	0·95	0·177
July—Juillet	2·09	0·87	0·162	1·51	0·88	0·163
August—Août	2·02	0·84	0·156	1·50	0·88	0·163
September—Septembre	2·58	1·07	0·199	2·11	1·24	0·230
October—Octobre	2·81	1·17	0·217	2·56	1·50	0·279
November—Novembre	2·98	1·24	0·230	2·64	1·55	0·288
December—Décembre	4·79	1·99	0·370	3·86	2·27	0·422
Average—Moyenne	2·74	1·14	0·212	1·97	1·16	0·216
Port Colborne—						
April—Avril	3·69	1·53	0·180	2·79	1·64	0·193
May—Mai	3·58	1·49	0·175	2·58	1·52	0·179
June—Juin	3·25	1·35	0·159	2·19	1·29	0·152
July—Juillet	–	–	–	2·27	1·33	0·156
August—Août	2·50	1·04	0·122	2·11	1·24	0·146
September—Septembre	3·55	1·48	0·174	2·99	1·76	0·207
October—Octobre	3·00	1·25	0·147	2·94	1·72	0·203
November—Novembre	3·25	1·35	0·159	2·85	1·67	0·197
December—Décembre	–	–	–	–	–	–
Average—Moyenne	3·45	1·43	0·168	2·63	1·55	0·182
Buffalo—						
April—Avril	2·03	0·84	0·096	1·69	0·99	0·114
May—Mai	1·75	0·73	0·084	1·52	0·89	0·103
June—Juin	1·75	0·73	0·084	1·36	0·80	0·092
July—Juillet	1·75	0·73	0·084	–	–	–
August—Août	1·75	0·73	0·084	–	–	–
September—Septembre	1·69	0·70	0·081	–	–	–
October—Octobre	2·00	0·83	0·098	–	–	–
November—Novembre	3·15	1·31	0·151	1·95	1·15	0·132
December—Décembre	4·15	1·73	0·200	3·82	2·25	0·260
Average—Moyenne	2·19	0·91	0·105	2·44	1·43	0·165
Port Colborne to Montreal—Port-Colborne à Montréal—						
April—Avril	8·25	3·44	0·905	5·50	3·24	0·853
May—Mai	8·25	3·44	0·905	5·50	3·24	0·853
June—Juin	8·00	3·33	0·876	5·25	3·09	0·802
July—Juillet	–	–	–	5·37	3·16	0·832
August—Août	–	–	–	–	–	–
September—Septembre	6·87	2·86	0·753	–	–	–
October—Octobre	–	–	–	–	–	–
November—Novembre	–	–	–	–	–	–
December—Décembre	–	–	–	5·50	3·24	0·853

Table XIII—Freight Rates by Water on Flax and Rye during 1921

Tableau XIII—Tarifs des transports par eau sur le lin et le seigle en 1921

Fort William-Port Arthur to—à	Flax — Lin			Rye — Seigle		
	Average rate per bushel — Moyenne par boisseau	Average rate per ton — Moyenne par tonne	Average rate per ton-mile — Moyenne par tonne-mille	Average rate per bushel — Moyenne par boisseau	Average rate per ton — Moyenne par tonne	Average rate per ton-mile — Moyenne par tonne-mille
	cents	$	cent	cents	$	cent
Montreal—Montréal—						
April—Avril	–	–	–	–	–	–
May—Mai	12·68	4·53	0·368	11·29	4·03	0·328
June—Juin	10·50	3·75	0·305	10·00	3·57	0·290
July—Juillet	10·50	3·75	0·305	10·00	3·57	0·290
August—Août	10·50	3·75	0·305	–	–	–
September—Septembre	10·50	3·75	0·305	10·50	3·78	0·307
October—Octobre	12·00	4·28	0·340	–	–	–
November—Novembre	11·00	3·93	0·344	–	–	–
December—Décembre	–	–	–	–	–	–
Average—Moyenne	11·38	4·06	0·330	10·62	3·79	0·308
Goderich and Georgian Bay—Goderich et la Baie Georgienne						
April—Avril	2·75	0·98	0·183	2·68	0·95	0·177
May—Mai	2·25	0·80	0·149	2·50	0·88	0·164
June—Juin	2·25	0·80	0·149	2·25	0·81	0·151
July—Juillet	–	–	–	2·25	0·81	0·151
August—Août	2·25	0·80	0·149	2·25	0·81	0·151
September—Septembre	2·50	0·89	0·166	3·07	1·09	0·203
October—Octobre	3·13	1·12	0·208	3·10	1·10	0·204
November—Novembre	3·50	1·25	0·233	–	–	–
December—Décembre	5·00	1·78	0·332	4·48	1·60	0·297
Average—Moyenne	3·26	1·16	0·216	3·12	1·11	0·206
Buffalo—						
April—Avril	2·00	0·71	0·082	2·00	0·71	0·082
May—Mai	1·75	0·62	0·072	–	–	–
June—Juin	1·75	0·62	0·072	1·75	0·62	0·072
July—Juillet	–	–	–	–	–	–
August—Août	2·05	0·73	0·084	–	–	–
September—Septembre	2·00	0·71	0·082	2·14	0·76	0·088
October—Octobre	2·42	0·86	0·099	2·08	0·74	0·086
November—Novembre	2·74	0·98	0·133	3·25	1·16	0·134
December—Décembre	–	–	–	4·48	1·60	0·185
Average—Moyenne	2·27	0·81	0·094	2·81	1·00	0·116

Table XIV—Freight Rates by Water on Wheat during 1920 and 1921

Tableau XIV—Tarifs des transports par eau sur le blé en 1920 et 1921

Fort Willinm-Port Arthur to—à	1920			1921		
	Average rate per bushel — Moyenne par boisseau	Average rate per ton — Moyenne par tonne	Average rate per ton-mile — Moyenne par tonne-mille	Average rate per bushel — Moyenne par boisseau	Average rate per ton — Moyenne par tonne	Average rate per ton-mile — Moyenne par tonne-mille
	cents	$	cent	cents	$	cent
Montreal—Montréal—						
April—Avril	–	–	–	12·63	4·21	0·343
May—Mai	11·00	3·67	0·298	11·71	3·90	0·317
June—Juin	11·00	3·67	0·298	10·18	3·39	0·276
July—Juillet	–	–	–	10·00	3·34	0·272
August—Août	–	–	–	10·00	3·34	0·272
September—Septembre	13·46	4·49	0·365	10·00	3·34	0·272
October—Octobre	11·00	3·67	0·298	11·00	3·67	0·299
November—Novembre	–	–	–	11·00	3·67	0·299
December—Décembre	–	–	–	–	–	–
Average—Moyenne	11·64	3·87	0·316	10·86	3·62	0·295
Goderich and Georgian Bay—Goderich et la Baie Georgienne—						
April—Avril	3 01	1 00	0 186	2 68	0 89	0 166
May—Mai	3 00	1·00	0·186	2·29	0·76	0·141
June—Juin	3·00	1·00	0·186	2·25	0·75	0·140
July—Juillet	3·00	1·00	0·186	2·26	0·75	0·140
August—Août	2·99	0·99	0·186	2·25	0·75	0·140
September—Septembre	3·87	1·29	0·240	2·97	0·99	0·184
October—Octobre	5·08	1·69	0·315	3·01	1·00	0·186
November—Novembre	5·52	1·84	0·342	3·08	1·03	0·192
December—Décembre	5·64	1·88	0·350	4·59	1·53	0·285
Average—Moyenne	4·17	1·39	0·259	2·96	0·99	0·184
Port Colborne—						
April—Avril	3·50	1·16	0·137	3·82	1·27	0·150
May—Mai	3·50	1·16	0·137	3·18	1·06	0·125
June—Juin	3·44	1·14	0·135	2·70	0·90	0·106
July—Juillet	3·50	1·16	0·137	2·77	0·92	0·108
August—Août	3·50	1·16	0·137	2·63	0·88	0·104
September—Septembre	4·32	1·44	0·172	3·19	1·06	0·125
October—Octobre	6·05	2·01	0·237	3·31	1·10	0·130
November—Novembre	6·32	2·10	0·248	3·18	1·06	0·125
December—Décembre	6·75	2·25	0·264	3·79	1 26	0 148
Average—Moyenne	4 57	1 52	0·180	3·13	1·04	0·123
Buffalo—						
April—Avril	–	–	–	2·27	0·76	0·088
May—Mai	–	–	–	1·75	0·58	0·067
June—Juin	–	–	–	1·75	0·58	0·067
July—Juillet	–	–	–	1·78	0·59	0·068
August—Août	3·00	1·00	0·145	1·84	0·61	0·071
September—Septembre	5·34	1·78	0·211	2·04	0·68	0·079
October—Octobre	6·06	2·02	0·238	2·05	0·68	0·079
November—Novembre	5·74	1·91	0·224	2·76	0·92	0·106
December—Décembre	5·31	1·77	0·209	4·86	1·62	0·187
Average—Moyenne	5·70	1·90	0·223	2·15	0·72	0·083
Port Colborne to Montreal—Port-Colborne à Montréal—						
April—Avril	–	–	–	8·50	2·83	0·745
May—Mai	–	–	–	8·50	2·83	0·745
June—Juin	–	–	–	7·87	2·62	0·689
July—Juillet	–	–	–	7·50	2·50	0·658
August—Août	–	–	–	–	–	–
September—Septembre	–	–	–	7·87	2·62	0·689
October—Octobre	–	–	–	7·50	2·50	0·658
November—Novembre	–	–	–	7·25	2·42	0·637
December—Décembre	–	–	–	–	–	–

Table XV—Average Freight Rates by Water on Wheat
Tableau XV—Moyenne des tarifs des transports par eau sur le blé

Fort William-Port Arthur to—à		Per Bushel — Par boisseau	Per Ton — Par tonne	Per Ton per mile — Par tonne-mille
		cents	$	cent
Montreal—Montréal	1917	8·78	3·26	0·205
	1918	11·39	3·80	0·309
	1919	10·76	3·58	0·292
	1920	11·64	3·87	0·316
	1921	10·86	3·62	0·295
Georgian Bay Ports—Ports de la Baie Georgienne	1917	4·25	1·42	0·270
	1918	4·32	1·44	0·277
	1919	3·15	1·05	0·203
	1920	4·17	1·39	0·259
	1921	2·96	0·99	0·184
Other Canadian Ports—Autres ports canadiens	1917	4·18	1·39	0·185
	1918	4·48	1·49	0·205
	1919	3·46	1·15	0·150
	*1920	4·57	1·52	0·180
	*1921	3·13	1·04	0·123
Buffalo	1917	5·00	1·67	0·196
	1918	4·11	1·37	0·158
	1919	3·73	1·24	0·143
	1920	5·70	1·90	0·223
	1921	2·15	0·72	0·083

*Port Colborne only—Port-Colborne seulement.

Table XVI—Statement of Traffic through Canals at Sault Ste. Marie, Canadian and American, during 1921

Tableau XVI—Relevé du trafic par les canaux du Sault Ste-Marie, canadien et américain, en 1921

Commodities — Nomenclature	Up — En montant			Down — En descendant			Grand Total	Compared with 1920 — Comparé avec 1920	
	Canadian Canal — Canal canadien	American Canal — Canal américain	Total	Canadian Canal — Canal canadien	American Canal — Canal américain	Total		Increase — Augmentation	Decrease — Diminution
	Number — Nombre	Number — Nombre	Number — Nombre	Number — Nombre	Number — Nombre	Number — Nombre	Number — Nombre	Number — Nombre	Number — Nombre
Vessel Passages—Navires en circulation	–	–	–	–	–	–	12,824	–	6,024
Registered Tonnage—Tonnage enregistré	–	–	–	–	–	–	32,187,795	– 2	6,008,763
Passengers—Passagers	21,292	12,264	33,556	21,475	11,640	33,115	66,671	–	1,783
	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes	Tons — Tonnes
Lumber—Bois de construction	111	–	111	35,795	301,075	336,870	336,981	121,884	–
Flour—Farine	203	–	203	446,707	575,024	1,021,731	1,021,934	274,497	–
Wheat—Blé	–	–	–	458,944	5,465,981	5,924,925	5,924,925	1,624,305	–
Grain, other than wheat—Grain, autre que le blé	2,240	–	2,240	487,467	1,570,368	2,057,835	2,060,075	953,106	–
Copper—Cuivre	–	–	–	6,018	24,542	30,560	30,560	–	17,219
Iron Ore—Minerai de fer	–	9,820	9,820	127,615	22,457,888	22,585,503	22,595,323	–	34,185,175
Pig Iron—Fer en gueuse	869	–	869	526	–	526	1,395	–	3,383
Mfgd. Iron and Steel—Fer et acier ouvrés	10,135	31,187	41,322	13	–	13	41,335	–	35,214
Coal-Soft—Houille bitumineuse	92,203	12,414,829	12,507,032	–	–	–	12,507,032	410,145	
Coal-Hard—Houille anthracite	10,908	2,245,230	2,256,138	–	–	–	2,256,138	199,172	–
Salt—Sel	7,105	57,098	64,203	–	–	–	64,203	–	35,167
Oil—Huile	671	301,632	302,303	–	–	–	302,303	–	53,588
Stone—Pierre	–	465,996	165,996	16,060	9,000	25,060	491,056	–	69,170
Merchandise and Miscellaneous—Marchandises diverses	225,079	269,977	495,056	68,923	56,877	125,890	620,856	–	209,707
Total Freight—Total du fret	319,524	15,795,769	16,145,293	1,648,068	30,460,755	32,108,823	48,254,116	–	31,025,514

Table XVII—Statement of Traffic on the SAULT STE. MARIE Canal during 1921

Commodities	Total Number — Nombre total	From Canadian to Canadian Ports — De ports canadiens à ports canadiens		From Canadian to United States Ports — De ports canadiens à ports des Etats-Unis		From United States to United States Ports — De ports des Etats-Unis à port des Etats-Unis		From United States to Canadian Ports — De ports des Etats-Unis à ports canadiens	
		Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant
Canadian Vessels—Steam	3,234	1,522,685	968,972	22,437	46,483	–	–	66,856	5,092
Canadian Vessels—Sail	230	20,575	21,125	–	717	–	–	1,378	–
United States Vessels—Steam	319	4,337	150	18,999	83,696	646,711	263,563	87,463	4,469
United States Vessels—Sail	80	1,195	1,340	50	1,369	267	–	1,463	–
Total	3,863	1,548,792	991,587	41,486	132,265	646,978	263,563	157,160	9,561
Passengers ..... Number	–	20,810	20,561	6	7	444	907	32	–
Agricultural Products—									
Barley	–	–	94,685	–	4,624	–	13,325	–	–
Buckwheat	–	–	–	–	–	–	–	–	–
Corn	–	–	–	–	–	–	10,649	2,240	6,916
Oats	–	–	308,721	–	9,406	–	311	–	–
Rye	–	–	7,085	–	–	–	9,163	–	1,764
Flax	–	–	13,765	–	5,569	–	1,484	–	–
Peas	–	–	–	–	–	–	–	–	–
Wheat	–	–	353,935	–	58,807	–	38,594	–	7,608
Flour	–	203	311,872	–	–	–	134,835	–	–
Hay	–	–	–	–	–	–	–	–	–
Other mill products	–	–	39,969	–	–	–	1,100	–	–
Fruits and vegetables	–	498	–	–	–	–	–	–	–
Potatoes	–	–	–	–	–	–	–	–	–
Total	–	701	1,130,032	–	78,406	–	209,461	2,240	16,288
Animal Products—									
Live stock	–	–	–	–	–	–	–	–	–
Poultry, game and fish	–	–	302	–	–	–	–	–	–
Dressed meats	–	–	–	–	–	–	–	–	–
Other packing house products	–	683	12	–	–	–	–	–	–
Hides and leather	–	–	–	–	–	–	–	–	–
Wool	–	–	–	–	–	–	15	–	–
Animal products, all other	–	–	–	–	–	–	–	–	–
Total	–	683	314	–	–	–	15	–	–
Manufactures—									
Agricultural implements	–	9,360	–	–	–	–	–	–	–
Cement, bricks, lime	–	1,565	–	–	–	7,980	–	–	–
Household goods and furniture	–	7	–	–	–	–	–	–	–
Iron—Pig and bloom	–	869	526	–	–	–	–	–	–
Iron and steel, all other	–	7,933	8	–	5	1,900	–	302	–
Petroleum and other oils	–	671	–	–	–	–	–	–	–
Sugar	–	14,513	–	–	–	–	–	–	–
Salt	–	7,105	–	–	–	–	–	–	–
Wines, liquors and beers	–	125	–	–	–	–	–	–	–
Merchandise—Not enumerated	–	162,813	1,946	–	5,682	13,670	9,131	11,589	827
Total	–	204,961	2,480	–	5,687	23,550	9,131	11,891	827
Products of Forests—									
Pulpwood	–	–	2,970	–	3,000	–	–	–	–
Sawed lumber	–	111	32,810	–	68	–	2,917	–	–
Squared timber	–	–	1,000	–	–	–	330	–	–
Shingles	–	–	–	–	–	–	2,097	–	–
Other woods	–	35	542	–	–	–	–	–	–
Total	–	146	37,322	–	3,068	–	5,344	–	–
Products of Mines—									
Hard coal	–	10	–	–	–	7,000	–	3,898	–
Soft coal	–	1,603	–	–	–	25,600	–	65,000	–
Coke	–	–	–	–	–	–	–	–	–
Copper ore	–	–	856	–	–	–	4,457	–	705
Iron ore	–	–	–	–	–	–	125,615	–	2,000
Other ore	–	–	–	2,241	–	–	–	–	–
Sand, etc	–	–	16,060	–	–	–	–	–	–
Total	–	1,613	16,916	2,241	–	32,600	130,072	68,898	2,705
Grand Total	3,863	208,104	1,187,064	2,241	87,161	56,150	354,023	83,029	19,820

Registered net tonnage of vessels. Tons (2,000 lbs.) of cargoes.

Tableau XVII—Relevé du trafic sur le canal SAULT STE-MARIE en 1921

Tons — Tonnes		Total Tons — Tonnage total	Compared with 1920 — Comparé avec 1920		Origin of Cargo — Origine de la cargaison		Nomenclature
			Increase — Augmentation	Decrease — Diminution			
Up — En montant	Down — En descendant		Tons — Tonnes	Tons — Tonnes	Canadian — Canada	United States — Etats-Unis	
1,611,978	1,020,547	2,632,525	290,639	–	–	–	Navires canadiens, à vapeur.
21,953	21,842	43,795	–	30,094	–	–	Navires canadiens, à voiles.
757,510	351,878	1,109,388	–	1,591,395	–	–	Navires des Etats-Unis, à vapeur.
2,975	2,709	5,684	–	18,964	–	–	Navires des Etats-Unis, à voiles.
2,394,416	1,396,976	3,791,392	–	1,349,814	–	–	Total.
21,292	21,475	42,767	–	688	–	–	Passagers..... Nombre.
							Produits agricoles—
–	112,634	112,634	29,908	–	99,309	13,325	Orge.
–	–	–	–	–	–	–	Sarrasin.
2,240	17,565	19,805	19,805	–	–	19,805	Maïs.
–	318,438	318,438	201,035	–	318,127	311	Avoine.
–	18,012	18,012	–	53,715	7,085	10,927	Seigle.
–	20,818	20,818	934	–	19,334	1,484	Lin.
–	–	–	–	–	–	–	Pois.
–	458,944	458,944	–	46,828	415,142	43,802	Blé.
203	446,707	446,910	200,815	–	312,075	134,835	Farine.
–	–	–	–	36	–	–	Foin.
–	41,069	41,069	39,172	–	39,969	1,100	Autres produits de meunerie.
498	–	498	106	–	498	–	Fruits et légumes.
–	–	–	–	–	–	–	Pommes de terre.
2,941	1,434,187	1,437,128	391,196	–	1,211,539	225,589	Total.
							Produits des animaux—
–	–	–	–	1	–	–	Animaux vivants.
–	302	302	126	–	302	–	Volaille, gibier et poisson.
–	–	–	–	–	–	–	Viandes abattues.
683	12	695	–	721	695	–	Autres produits des fabricants de conserves.
–	–	–	–	–	–	–	Peaux et cuir.
–	15	15	–	28	–	15	Laines.
–	–	–	–	–	–	–	Tous autres produits des animaux.
683	329	1,012	–	624	997	15	Total.
							Manufactures—
9,360	–	9,360	7,355	–	9,360	–	Instruments nratoires.
9,545	–	9,545	9,545	–	1,565	7,980	Ciment, briques, chaux.
7	–	7	6	–	7	–	Meubles et objets mobiliers.
869	526	1,395	–	3,383	869	526	Fer en gueuse et en saumon.
10,135	13	10,148	–	6,478	7,846	2,302	Tous autres fer et acier.
671	–	671	–	1,732	671	–	Pétrole et autres huiles.
14,513	–	14,513	9,428	–	14,513	–	Sucre.
7,105	–	7,105	–	3,116	7,105	–	Sel.
125	–	125	–	411	125	–	Vins, liqueurs et bières.
188,072	17,586	205,658	–	22,866	169,995	35,663	Marchandises non énumérées.
240,402	18,125	258,527	–	11,652	212,056	46,471	Total.
							Produits forestiers—
–	5,970	5,970	–	42,410	5,970	–	Bois à pulpe.
111	35,795	35,906	30,828	–	32,989	2,917	Bois de construction scié.
–	1,330	1,330	1,304	–	1,000	330	Bois équarri.
–	2,097	2,097	1,717	–	–	2,097	Bardeaux.
35	542	577	537	–	577	–	Autres bois.
146	45,734	45,880	–	8,024	40,536	5,344	Total.
							Produits miniers—
10,908	–	10,908	–	3,292	–	10,908	Houille anthracite.
92,203	–	92,203	–	100,388	15	92,188	Houille bitumineuse.
–	–	–	–	2,300	–	–	Coke.
–	6,018	6,018	–	558	–	6,018	Minerai de cuivre.
–	127,615	127,615	–	730,568	–	127,615	Minerai de fer.
2,241	–	2,241	2,241	–	2,241	–	Autres minerais.
–	16,060	16,060	–	16,257	16,060	–	Sable, etc.
105,352	149,693	255,045	–	851,122	18,316	236,729	Total.
349,524	1,648,068	1,997,592	–	480,226	1,483,444	514,148	Grand total.

Tonnage net, enregistré, des navires. Tonnes (2,000 liv.) des cargaisons.

Table XVIII—Statement of Traffic on the WELLAND Canal during 1921

Commodities	Total Number — Nombre total	From Canadian to Canadian Ports — De ports canadiens à ports canadiens		From Canadian to United States Ports — De ports canadiens à ports des Etats-Unis		From United States to United States Ports — De ports des Etats-Unis à port des Etats-Unis		From United States to Canadian Ports — De ports des Etats-Unis à ports canadiens	
		Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant
Canadian Vessels—Steam..	2,673	766,153	815,093	440,335	3,986	35,871	987	15,033	432,846
Canadian Vessels—Sail	365	114,753	114,390	10,258	1,214	–	176	–	10,133
United States Vessels—Steam.....	714	18,876	18,380	214,654	2,727	46,277	7,118	–	254,193
United States Vessels—Sail.....	18	447	–	2,688	–	–	25	–	2,758
Total....	3,770	900,229	947,863	667,935	7,927	82,148	8,306	15,033	699,930
Passengers ..... Number	–	–	–	–	–	–	–	–	–
Agricultural Products—									
Barley.....	–	–	51,209	–	–	–	–	–	2,410
Buckwheat..	–	–	1,673	–	–	–	–	–	–
Corn.....	–	–	598,187	720	–	–	–	–	159,476
Oats.....	–	–	138,934	–	–	–	–	–	–
Rye.....	–	–	20,872	–	–	–	–	–	29,316
Flax.....	–	–	9,660	–	–	–	–	–	–
Peas.....	–	–	–	–	–	–	–	–	–
Wheat.....	–	510	674,503	13,643	–	–	1,080	–	169,750
Flour.....	–	–	2,000	–	–	–	–	–	–
Hay.....	–	–	–	–	–	–	–	–	–
Other mill products.....	–	–	–	–	–	–	–	–	–
Fruits and vegetables.....	–	–	–	–	–	–	–	–	–
Potatoes.....	–	–	–	–	–	–	–	–	–
Total.....	–	510	1,497,038	14,363	–	–	1,080	–	360,952
Animal Products—									
Live stock.....	–	–	–	–	–	–	–	–	–
Poultry, game and fish.....	–	–	–	–	–	–	–	–	–
Dressed meats.....	–	–	–	–	–	–	–	–	–
Other packing house products.....	–	–	–	–	–	–	–	–	–
Hides and leather.....	–	–	–	–	–	–	–	–	–
Wool.....	–	–	–	–	–	–	–	–	–
Animal products, all other.....	–	–	–	–	–	–	–	–	–
Total.....	–	–	–	–	–	–	–	–	–
Manufactures—									
Agricultural implements.....	–	9,482	–	–	–	–	–	–	–
Cement, bricks, lime.....	–	1,930	–	–	–	–	–	–	–
Household goods and furniture ...	–	–	–	–	–	–	–	–	–
Iron—Pig and bloom.....	–	870	1,627	–	–	–	–	–	1,221
Iron and steel, all other.....	–	8,131	–	–	–	–	–	–	13,369
Petroleum and other oils.....	–	18,214	77,846	–	–	–	–	–	8,355
Sugar.....	–	10,622	–	–	–	757	–	–	–
Salt.....	–	–	–	–	–	–	–	–	–
Wines, liquors and beers.....	–	116	–	–	–	–	–	–	–
Merchandise—Not enumerated....	–	44,784	396	630	–	895	300	250	4,894
Total.....	–	94,149	79,869	630	–	1,652	300	250	27,839
Products of Forests—									
Pulpwood.....	–	101,154	2,970	46,304	–	–	–	–	–
Sawed lumber.....	–	10	–	–	–	–	4,643	–	–
Squared timber.....	–	–	–	–	–	–	–	–	–
Shingles.....	–	–	–	–	–	–	–	–	–
Other woods.....	–	–	–	–	–	–	–	–	–
Total.....	–	101,164	2,970	46,304	–	–	4,643	–	–
Products of Mines—									
Hard coal.....	–	–	–	–	–	7,040	–	3,974	2,116
Soft coal	–	–	–	–	–	–	1,100	–	759,037
Coke...	–	–	–	–	–	–	–	–	4,700
Copper ore.....	–	–	856	–	–	–	–	–	705
Iron ore.....	–	–	–	–	–	–	–	–	–
Other ore	–	2,241	–	–	–	–	–	–	–
Sand, etc.....	–	–	45,708	–	–	3,900	–	–	11,332
Total.....	–	2,241	46,564	–	–	10,940	1,100	3,974	777,890
Grand total.....	3,770	198,064	1,626,441	61,297	–	12,592	7,123	4,224	1,166,681

Registered net tonnage of vessels. Tons (2,000 lbs.) of cargoes.

NOTE.—The above statement includes 158,855 tons of way freight, distributed as follows: petroleum 2,411, merchandise 2,912, pulpwood 93,565, soft coal 3,977, sand and stone 55,990 tons.

Tableau XVIII—Relevé du trafic sur le canal WELLAND en 1921

Tons — Tonnes		Total Tons — Tonnage total	Compared with 1920 — Comparé avec 1920		Origin of Cargo — Origine de la cargaison		Nomenclature
Up — En montant	Down — En descendant		Increase — Augmentation Tons — Tonnes	Decrease — Diminution Tons — Tonnes	Canadian — Canada	United States — Etats-Unis	
1,257,392	1,252,912	2,510,304	754,371	–	–	–	Navires canadiens, à vapeur.
125,011	125,913	250,924	–	6,960	–	–	Navires canadiens, à voiles.
279,807	282,418	562,225	115,795	–	–	–	Navires des Etats-Unis, à vapeur.
3,135	2,783	5,918	–	62,091	–	–	Navires des Etats-Unis, à voiles.
1,665,345	1,664,026	3,329,371	801,115	–	–	–	Total.
–	–	–	–	–	–	–	Passagers.....Nombre.
							Produits agricoles—
–	53,619	53,619	7,732	–	51,209	2,410	Orge.
–	1,673	1,673	1,673	–	1,673	–	Sarrasin.
720	757,663	758,383	747,776	–	–	758,383	Maïs.
–	138,934	138,934	121,682	–	137,437	1,497	Avoine.
–	50,188	50,188	45,694	–	11,834	38,354	Seigle.
–	9,660	9,660	7,108	–	9,660	–	Lin.
–	–	–	–	–	–	–	Pois.
14,153	845,333	859,486	502,939	–	451,715	407,771	Blé.
–	2,000	2,000	950	–	2,000	–	Farine.
–	–	–	–	–	–	–	Foin.
–	–	–	–	–	–	–	Autres produits de meunerie.
–	–	–	–	–	–	–	Fruits et légumes.
–	–	–	–	–	–	–	Pommes de terre.
14,873	1,859,070	1,873,943	1,435,554	–	665,528	1,208,415	Total.
							Produits des animaux—
–	–	–	–	–	–	–	Animaux vivants.
–	–	–	–	–	–	–	Volaille, gibier et poisson.
–	–	–	–	–	–	–	Viande abattue.
–	–	–	–	–	–	–	Autres produits des fabricants de conserve.
–	–	–	–	10	–	–	Peaux et cuir.
–	–	–	–	–	–	–	Laine.
–	–	–	–	–	–	–	Tous autres produits des animaux.
–	–	–	–	10	–	–	Total.
							Manufactures—
9,482	–	9,482	6,432	.....	9,482	–	Instruments aratoires.
1,930	–	1,930	–	28,470	1,930	–	Ciment, briques, chaux.
–	–	–	–	–	–	–	Meubles et objets mobiliers.
870	2,848	3,718	23	–	870	2,848	Fer en gueuse et en saumon.
8,131	13,369	21,500	16,415	–	8,131	13,369	Tous autres fer et acier.
18,214	86,201	104,415	–	2,790	96,060	8,355	Pétrole et autres huiles.
11,379	–	11,379	7,993	–	10,622	757	Sucre.
–	–	–	–	–	–	–	Sel.
116	–	116	–	154	116	–	Vins, liqueurs et bières.
46,559	5,590	52,149	26	–	45,284	6,865	Marchandises non énumérées.
96,681	108,008	204,689	–	525	172,495	32,194	Total.
							Produits forestiers—
147,458	2,970	150,428	–	15,750	150,428	–	Bois à pulpe.
10	4,643	4,653	678	–	10	4,643	Bois de construction scié.
–	–	–	–	–	–	–	Bois équarri.
–	–	–	–	–	–	–	Bardeaux.
–	–	–	–	–	–	–	Autres bois.
147,468	7,613	155,081	–	15,072	150,438	4,643	Total.
							Produits miniers—
11,014	2,116	13,130	13,130	–	–	13,130	Houille anthracite.
–	760,137	760,137	–	623,224	–	760,137	Houille bitumineuse.
–	4,700	4,700	4,700	–	–	4,700	Coke.
–	1,561	1,561	811	–	–	1,561	Minerai de cuivre.
–	–	–	–	–	–	–	Minerai de fer.
2,241	–	2,241	2,241	–	2,241	–	Autres minerais.
3,900	57,040	60,940	–	17,255	45,708	15,232	Sable, etc.
17,155	825,554	842,709	–	619,597	47,949	794,760	Total.
276,177	2,800,245	3,076,422	800,350	–	1,036,410	2,040,012	Grand total.

Tonnage net, enregistré, des navires. Tonnes (2,000 liv.) des cargaisons.

NOTA.—Le relevé ci-dessus comprend 158,855 tonnes de fret transbordé ainsi divisé: 2,411 tonnes de pétrole, 2,912 tonnes de marchandises, 93,565 tonnes de bois de pulpe, 3,977 tonnes de houille bitumineuse, 55,990 tonnes de sable et de pierre.

Table XIX—Statement of Through and Way Traffic on the ST. LAWRENCE Canals during 1921

Commodities	Total Number — Nombre total	From Canadian to Canadian Ports — De ports canadiens à ports canadiens		From Canadian to United States Ports — De ports canadiens à ports des Etats-Unis		From United States to United States Ports — De ports des Etats-Unis à port des Etats-Unis		From United States to Canadian Ports — De ports des Etats-Unis à ports canadiens	
		Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant
Canadian Vessels—Steam	6,241	1,078,867	1,095,149	525,898	272	–	–	1,519	496,173
Canadian Vessels—Sail	2,165	333,161	323,391	40,060	301	–	–	301	44,141
United States Vessels—Steam	674	5,939	5,430	261,090	–	3,822	24	–	253,670
United States Vessels—Sail	130	3,625	2,331	–	6,248	–	–	2,553	878
Total	9,210	1,421,592	1,426,301	827,048	6,821	3,822	24	4,373	794,862
Passengers ..... Number	–	16,964	39,941	–	–	–	–	–	–
Agricultural Products—									
Barley	–	1,737	53,915	–	–	–	–	–	2,410
Buckwheat	–	1	2	–	–	–	–	–	–
Corn	–	3,043	618,110	–	–	–	–	–	152,518
Oats	–	178	140,876	–	–	–	–	–	–
Rye	–	–	21,852	–	–	–	–	–	28,336
Flax	–	550	9,660	–	–	–	–	–	–
Peas	–	2	24	–	–	–	–	–	–
Wheat	–	2,811	658,238	14,429	–	–	–	–	177,302
Flour	–	1,188	2,961	–	–	–	–	–	–
Hay	–	2,685	1,349	–	–	–	–	–	–
Other mill products	–	194	589	–	–	–	–	–	–
Fruits and Vegetables	–	279	1,227	–	–	–	–	–	–
Potatoes	–	81	266	–	–	–	–	–	–
Total	–	12,749	1,509,069	14,429	–	–	–	–	360,566
Animal Products—									
Live stock	–	44	410	–	–	–	–	–	–
Poultry, game and fish	–	6	34	–	–	–	–	–	–
Dressed meats	–	2	1	–	–	–	–	–	–
Other packing house products	–	136	937	–	–	–	–	–	–
Hides and leather	–	–	14	–	–	–	–	–	–
Wool	–	–	2	–	–	–	–	–	–
Animal products, all other	–	1,117	2,508	–	–	–	–	–	–
Total	–	1,305	3,906	–	–	–	–	–	–
Manufactures—									
Agricultural implements	–	82	398	–	–	–	–	–	–
Cement, bricks, lime	–	3,986	131	–	–	–	–	–	–
Household goods and furniture	–	740	1,805	–	–	–	–	–	–
Iron—Pig and bloom	–	1,333	1,066	–	–	–	–	–	–
Iron and steel, all other	–	9,550	10,066	–	977	–	–	–	13,369
Petroleum and other oils	–	84,005	43,395	–	–	–	–	–	4,966
Sugar	–	29,030	207	–	–	750	–	–	–
Salt	–	1,491	74	–	–	–	–	–	–
Wines, liquors and beers	–	2,073	285	–	–	–	–	–	–
Merchandise—Not enumerated	–	44,002	38,601	–	290	–	–	2,969	3
Total	–	176,292	96,028	–	1,267	750	–	2,969	18,338
Products of Forests—									
Pulpwood	–	98,649	–	200,776	–	–	–	–	–
Sawed lumber	–	13,977	30,341	–	10,980	–	–	–	–
Squared timber	–	13	793	–	851	–	–	–	–
Shingles	–	2	200	–	–	–	–	–	–
Other woods	–	904	4,572	–	1,354	–	–	–	–
Total	–	113,545	35,906	200,776	13,185	–	–	–	–
Products of Mines									
Hard coal	–	15	2	–	–	–	–	790	228,009
Soft coal	–	17,621	18,910	–	–	–	–	–	727,045
Coke	–	–	–	–	–	–	–	–	4,700
Copper ore	–	–	856	–	–	–	–	–	705
Iron ore	–	–	–	–	–	–	–	–	–
Other ore	–	100	–	2,241	897	–	–	–	–
Sand, etc	–	76,813	94,281	–	–	–	–	–	–
Total	–	94,549	114,049	2,241	897	–	–	790	960,459
Grand Total	9,210	398,440	1,758,958	217,446	15,349	750	–	3,759	1,339,363

Registered net tonnage of vessels. Tons (2,000 lbs.) of cargoes.

Tableau XIX—Relevé du trafic direct et transbordé sur les canaux du ST-LAURENT en 1921

Tons — Tonnes		Total Tons — Tonnage total	Compared with 1920 — Comparé avec 1920		Origin of Cargo — Origine de la cargaison		Nomenclature
Up — En montant	Down — En descendant		Increase — Augmentation Tons — Tonnes	Decrease — Diminution Tons — Tonnes	Canadian — Canada	United States — Etats-Unis	
1,605,284	1,591,594	3,197,878	778,803	–	–	–	Navires canadiens, à vapeur.
373,522	367,833	741,355	–	72,599	–	–	Navires candiens, à voiles.
270,851	259,124	529,975	118,486	–	–	–	Navires des Etats-Unis, à vapeur.
6,178	9,457	15,635	–	15,126	–	–	Navires des Etats-Unis, à voiles.
2,256,835	2,228,008	4,484,843	809,564	–	–	–	Total.
16,964	39,941	56,905	–	5,492	56,905	–	Passagers. . . . . .Nombre.
							Produits agricoles—
1,737	56,325	58,062	12,306	–	55,652	2,410	Orge.
1	2	3	–	–	3	–	Sarrasin.
3,043	770,628	773,671	765,138	–	17,858	755,813	Maïs.
178	140,876	141,054	121,164	–	140,519	535	Avoine.
–	50,188	50,188	47,444	–	11,834	38,354	Seigle.
550	9,660	10,210	4,883	–	10,210	–	Lin.
2	24	26	26	–	26	–	Pois.
17,240	835,540	852,780	467,940	–	455,178	397,602	Blé.
1,188	2,961	4,149	1,671	–	4,149	–	Farine.
2,685	1,349	4,034	–	4,815	4,034	–	Foin.
194	589	783	–	74	783	–	Autres produits de meunerie.
279	1,227	1,506	904	–	1,506	–	Fruits et légumes.
81	266	347	–	159	347	–	Pommes de terre.
27,178	1,869,635	1,896,813	1,416,428	–	702,099	1,194,714	Total.
							Produits des animaux—
44	410	454	67	–	454	–	Animaux vivants.
6	34	40	–	94	40	–	Volaille, gibier et poisson.
2	1	3	–	1	3	–	Viande abattue.
136	937	1,073	878	–	1,073	–	Autres produits des fabricants de conserves.
–	14	14	–	5	14	–	Peaux et cuir.
–	2	2	–	3	2	–	Laine.
1,117	2,508	3,625	566	–	3,625	–	Tous autres produits des animaux.
1,305	3,906	5,211	1,408	–	5,211	–	Total.
							Manufactures—
82	398	480	241	–	480	–	Instruments aratoires.
3,986	131	4,117	–	13,856	4,117	–	Ciment, briques, chaux.
740	1,805	2,545	–	364	2,545	–	Meubles et objets mobiliers.
1,333	1,066	2,399	–	1,107	2,399	–	Fer en gueuse et en saumon.
9,550	24,412	33,962	25,642	–	20,705	13,257	Tous autres fer et acier.
84,005	48,361	132,366	70,503	–	127,400	4,966	Pétrole et autres huiles.
29,780	207	29,987	22,195	–	29,237	750	Sucre.
1,491	74	1,565	453	–	1,565	–	Sel.
2,073	285	2,358	376	–	2,358	–	Vins, liqueurs et bières.
46,971	38,894	85,865	–	16,296	81,847	4,018	Marchandises non énumérées.
180,011	115,633	295,644	87,787	–	272,653	22,991	Total.
							Produits forestiers—
299,425	–	299,425	–	109,050	299,425	–	Bois à pulpe.
13,977	41,321	55,298	–	61,343	55,298	–	Bois de construction scié.
13	1,644	1,657	–	194	1,657	–	Bois équarri.
2	200	202	202	–	202	–	Bardeaux.
904	5,926	6,830	2,691	–	6,830	–	Autres bois.
314,321	49,091	363,412	–	167,694	363,412	–	Total.
							Produits miniers—
805	228,011	228,816	–	42,172	17	228,799	Houille anthracite.
17,621	745,955	763,576	–	652,865	30,340	733,236	Houille bitumineuse.
–	4,700	4,700	4,700	–	–	4,700	Coke.
–	1,561	1,561	811	–	–	1,561	Minerai de cuivre.
–	–	–	–	–	–	–	Minerai de fer.
2,341	897	3,238	3,238	–	3,238	–	Autres minerais.
76,813	94,281	171,094	14,462	–	170,773	321	Sable, etc.
97,580	1,075,405	1,172,985	–	671,826	204,368	968,617	Total.
620,395	3,113,670	3,734,065	666,103	–	1,547,743	2,186,322	Grand total.

Tonnage net, enregistré, des navires. Tonnes (2,000 liv.) des cargaisons.

Table XX—Statement of Through Traffic on the ST. LAWRENCE Canals during 1921

Commodities	Total Number — Nombre total	From Canadian to Canadian Ports — De ports canadiens à ports canadiens		From Canadian to United States Ports — De ports canadiens à ports des Etats-Unis		From United States to United States Ports — De ports des Etats-Unis à port des Etats-Unis		From United States to Canadian Ports — De ports des Etats-Unis à ports canadiens	
		Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant
Canadian Vessels—Steam	3,091	925,695	940,674	514,899	–	–	–	1,519	491,117
Canadian Vessels—Sail	452	119,057	114,201	39,062	–	–	–	–	41,924
United States Vessels—Steam	617	733	2,788	257,367	–	3,822	–	–	248,993
United States Vessels—Sail	2	161	–	–	–	–	–	–	878
Total	4,162	1,045,646	1,057,663	811,328	–	3,822	–	1,519	782,912
Passengers ... Number	–	8,734	30,616	–	–	–	–	–	–
Agricultural Products—									
Barley	–	–	52,217	–	–	–	–	–	2,410
Buckwheat	–	–	–	–	–	–	–	–	–
Corn	–	560	601,094	–	–	–	–	–	149,936
Oats	–	–	140,438	–	–	–	–	–	–
Rye	–	–	21,852	–	–	–	–	–	28,336
Flax	–	–	9,660	–	–	–	–	–	–
Peas	–	–	–	–	–	–	–	–	–
Wheat	–	510	655,852	14,429	–	–	–	–	177,302
Flour	–	–	2,000	–	–	–	–	–	–
Hay	–	–	–	–	–	–	–	–	–
Other mill products	–	–	–	–	–	–	–	–	–
Fruits and vegetables	–	31	1,031	–	–	–	–	–	–
Potatoes	–	32	26	–	–	–	–	–	–
Total	–	1,133	1,484,170	14,429	–	–	–	–	357,984
Animal Products—									
Live stock	–	–	–	–	–	–	–	–	–
Poultry, game and fish	–	–	–	–	–	–	–	–	–
Dressed meats	–	–	–	–	–	–	–	–	–
Other packing house products	–	–	785	–	–	–	–	–	–
Hides and leather	–	–	–	–	–	–	–	–	–
Wool	–	–	–	–	–	–	–	–	–
Animal products, all other	–	74	412	–	–	–	–	–	–
Total	–	74	1,197	–	–	–	–	–	–
Manufactures—									
Agricultural implements	–	–	370	–	–	–	–	–	–
Cement, bricks, lime	–	2,032	–	–	–	–	–	–	–
Household goods and furniture	–	426	1,463	–	–	–	–	–	–
Iron—Pig and bloom	–	1,037	609	–	–	–	–	–	–
Iron and steel, all other	–	4,000	6,848	–	–	–	–	–	11,810
Petroleum and other oils	–	76,245	43,069	–	–	–	–	–	4,966
Sugar	–	27,402	22	–	–	750	–	–	–
Salt	–	573	8	–	–	–	–	–	–
Wines, liquors and beers	–	107	–	–	–	–	–	–	–
Merchandise—Not enumerated	–	35,880	27,729	–	–	–	–	–	3
Total	–	147,702	80,118	–	–	750	–	–	16,779
Products of Forests—									
Pulpwood	–	98,649	–	198,941	–	–	–	–	–
Sawed lumber	–	10	–	–	–	–	–	–	–
Squared timber	–	–	–	–	–	–	–	–	–
Shingles	–	–	–	–	–	–	–	–	–
Other woods	–	–	–	–	–	–	–	–	–
Total	–	98,659	–	198,941	–	–	–	–	–
Products of Mines—									
Hard coal	–	–	–	–	–	–	–	–	219,010
Soft coal	–	5,125	2,220	–	–	–	–	–	717,703
Coke	–	–	–	–	–	–	–	–	4,700
Copper ore	–	–	856	–	–	–	–	–	705
Iron ore	–	–	–	–	–	–	–	–	–
Other ore	–	–	–	2,241	–	–	–	–	–
Sand, etc	–	–	–	–	–	–	–	–	–
Total	–	5,125	3,076	2,241	–	–	–	–	942,118
Grand total	4,162	252,693	1,568,561	215,611	–	750	–		1,316,881

Registered net tonnage of vessels. Tons (2,000 lbs.) of cargoes.

Tableau XX—Relevé du trafic direct sur les canaux du ST-LAURENT en 1921

Tons — Tonnes		Total Tons — Tonnage total	Compared with 1920 — Comparé avec 1920		Origin of Cargo — Origine de la cargaison		Nomenclature
Up — En montant	Down — En descendant		Increase — Augmentation Tons — Tonnes	Decrease — Diminution Tons — Tonnes	Canadian — Canada	United States — Etats-Unis	
1,442,113	1,431,791	2,873,904	707,102	–	–	–	Navires canadiens, à vapeur.
158,119	156,125	314,244	–	82,113	–	–	Navires canadiens, à voiles.
261,922	251,781	513,703	111,303	–	–	–	Navires des Etats-Unis, à vapeur.
161	878	1,039	1,039	–	–	–	Navires des Etats-Unis, à voiles.
1,862,315	1,840,575	3,702,890	737,331	–	–	–	Total.
8,734	30,616	39,350	–	7,641	–	–	Passager, nombre.
							Produits agricoles—
–	54,627	54,627	8,874	–	52,217	2,410	Orge.
–	–	–	–	–	–	–	Sarrasin.
560	751,030	751,590	749,245	–	1,462	750,128	Maïs.
–	140,438	140,438	121,436	–	139,903	535	Avoine.
–	50,188	50,188	47,444	–	11,834	38,354	Seigle.
–	9,660	9,660	7,108	–	9,660	–	Lin.
–	–	–	–	–	–	–	Pois.
14,939	833,154	848,093	494,877	–	450,491	397,602	Blé.
–	2,000	2,000	950	–	2,000	–	Farine.
–	–	–	–	–	–	–	Foin.
–	–	–	–	–	–	–	Autres produits de meunerie.
31	1,031	1,062	1,007	–	1,062	–	Fruits et légumes.
32	26	58	5	–	58	–	Pommes de terre.
15,562	1,842,154	1,857,716	1,430,946	–	668,687	1,189,029	Total.
							Produits des animaux—
–	–	–	–	–	–	–	Animaux vivants.
–	–	–	–	–	–	–	Volaille, gibier et poisson.
–	–	–	–	–	–	–	Viande abattue.
–	785	785	785	–	785	–	Autres produits des fabricants de conserves.
–	–	–	–	10	–	–	Peaux et cuir.
–	–	–	–	–	–	–	Laine.
74	412	486	331	–	486	–	Tous autres produits des animaux.
74	1,197	1,271	1,106	–	1,271	–	Total.
							Manufactures—
–	370	370	270	–	370	–	Instruments aratoires.
2,032	–	2,032	–	14,717	2,032	–	Ciment, briques, chaux.
426	1,463	1,889	–	456	1,889	–	Meubles et objets mobiliers.
1,037	609	1,646	–	1,012	1,646	–	Fer en gueuse et en saumon.
4,000	18,658	22,658	19,103	–	10,960	11,698	Tous autres fer et acier.
76,245	48,035	124,280	68,659	–	119,314	4,966	Pétrole et autres huiles.
28,152	22	28,174	20,825	–	27,424	750	Sucre.
573	8	581	558	–	581	–	Sel.
107	–	107	–	233	107	–	Vins, liqueurs et bières.
35,880	27,732	63,612	–	17,690	62,636	976	Marchandise non énumérées.
148,452	96,897	245,349	75,307	–	226,959	18,390	Total.
							Produits forestiers—
297,590	–	297,590	297,590	–	297,590	–	Bois à pulpe.
10	–	10	–	408,375	10	–	Bois de construction scié.
–	–	–	–	3,975	–	–	Bois équarri.
–	–	–	–	–	–	–	Bardeaux.
–	–	–	–	–	–	–	Autre bois.
297,600	–	297,600	–	114,760	297,600	–	Total.
							Produits miniers—
–	219,010	219,010	–	37,580	–	219,010	Houille anthracite.
5,125	719,923	725,048	–	674,528	5,425	719,623	Houille bitumineuse.
–	4,700	4,700	4,700	–	–	4,700	Coke.
–	1,561	1,561	811	–	–	1,561	Minerai de cuivre.
–	–	–	–	–	–	–	Minerai de fer.
2,241	–	2,241	2,241	–	2,241	–	Autres minerais.
–	–	–	–	750	–	–	Sable, etc.
7,366	945,194	952,560	–	705,106	7,666	944,894	Total.
469,054	2,885,442	3,354,496	687,493	–	1,202,183	2,152,313	Grand total.

Tonnage net, enregistré. des navires. Tonnes (2,000 liv.) des cargaisons.

Table XXI—Statement of Way Traffic on the ST. LAWRENCE Canals during 1921

Commodities	Total Number — Nombre total	From Canadian to Canadian Ports — De ports canadiens à ports canadiens		From Canadian to United States Ports — De ports canadiens à ports des Etats-Unis		From United States to United States Ports — De ports des Etats-Unis à port des Etats-Unis		From United States to Canadian Ports — De ports des Etats-Unis à ports canadiens	
		Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant
Canadian Vessels—Steam	3,150	153,172	154,475	10,999	272	–	–	–	5,056
Canadian Vessels—Sail	1,713	214,104	209,190	998	301	–	–	301	2,217
United States Vessels—Steam	57	5,206	2,642	3,723	–	–	24	–	4,677
United States Vessels—Sail	128	3,464	2,331	–	6,248	–	–	2,553	–
Total	5,048	375,946	368,638	15,720	6,821	–	24	2,854	11,950
Passengers Number	–	8,230	9,325	–	–	–	–	–	–
Agricultural Products—									
Barley	–	1,737	1,698	–	–	–	–	–	–
Buckwheat	–	1	2	–	–	–	–	–	–
Corn	–	2,483	17,016	–	–	–	–	–	2,582
Oats	–	178	438	–	–	–	–	–	–
Rye	–	–	–	–	–	–	–	–	–
Flax	–	550	–	–	–	–	–	–	–
Peas	–	2	24	–	–	–	–	–	–
Wheat	–	2,301	2,386	–	–	–	–	–	–
Flour	–	1,188	961	–	–	–	–	–	–
Hay	–	2,685	1,349	–	–	–	–	–	–
Other mill products	–	194	589	–	–	–	–	–	–
Fruits and vegetables	–	248	196	–	–	–	–	–	–
Potatoes	–	49	240	–	–	–	–	–	–
Total	–	11,616	24,899	–	–	–	–	–	2,582
Animal Products—									
Live stock	–	44	410	–	–	–	–	–	–
Poultry, game and fish	–	6	34	–	–	–	–	–	–
Dressed meats	–	2	1	–	–	–	–	–	–
Other packing house products	–	136	152	–	–	–	–	–	–
Hides and leather	–	–	14	–	–	–	–	–	–
Wool	–	–	2	–	–	–	–	–	–
Animal products, all other	–	1,043	2,096	–	–	–	–	–	–
Total	–	1,231	2,709	–	–	–	–	–	–
Manufactures—									
Agricultural implements	–	82	28	–	–	–	–	–	–
Cement, bricks, lime	–	1,954	131	–	–	–	–	–	–
Household goods and furniture	–	314	342	–	–	–	–	–	–
Iron—Pig and bloom	–	296	457	–	–	–	–	–	–
Iron and steel, all other	–	5,550	3,218	–	977	–	–	–	1,559
Petroleum and other oils	–	7,760	326	–	–	–	–	–	–
Sugar	–	1,628	185	–	–	–	–	–	–
Salt	–	918	66	–	–	–	–	–	–
Wines, liquors and beers	–	1,966	285	–	–	–	–	–	–
Merchandise—Not enumerated	–	8,122	10,872	–	290	–	–	2,969	–
Total	–	28,590	15,910	–	1,267	–	–	2,969	1,559
Products of Forests—									
Pulpwood	–	–	–	1,835	–	–	–	–	–
Sawed lumber	–	13,967	30,341	–	10,980	–	–	–	–
Squared timber	–	13	793	–	851	–	–	–	–
Shingles	–	2	200	–	–	–	–	–	–
Other woods	–	904	4,572	–	1,354	–	–	–	–
Total	–	14,886	35,906	1,835	13,185	–	–	–	–
Products of Mines—									
Hard coal	–	15	2	–	–	–	–	790	8,999
Soft coal	–	12,496	16,690	–	–	–	–	–	9,342
Coke	–	–	–	–	–	–	–	–	–
Copper ore	–	–	–	–	–	–	–	–	–
Iron ore	–	–	–	–	–	–	–	–	–
Other ore	–	100	–	–	897	–	–	–	–
Sand, etc.	–	76,813	94,281	–	–	–	–	–	–
Total	–	89,424	110,973	–	897	–	–	790	18,341
Grand Total	5,048	145,747	190,397	1,835	15,349	–	–	3,759	22,482

Registered net tonnage of vessels. Tons (2,000 lbs.) of cargoes.

Tableau XXI—Relevé du trafic transbordé sur les canaux du ST-LAURENT en 1921

Tons — Tonnes		Total Tons — Tonnage total	Compared with 1920 — Comparé avec 1920		Origin of Cargo — Origine de la cargaison		Nomenclature
Up — En montant	Down — En descendant		Increase — Augmentation	Decrease — Diminution	Canadian — Canada	United States — Etats-Unis	
164,171	159,803	323,974	71,701	–	–	–	Navires canadiens, à vapeur.
215,403	211,708	427,111	9,514	–	–	–	Navires canadiens, à voiles.
8,929	7,343	16,272	7,183	–	–	–	Navires des Etats-Unis, à vapeur.
6,017	8,579	14,596	–	16,165	–	–	Navires des Etats-Unis, à voiles.
394,520	387,433	781,953	72,233	–	–	–	Total.
8,230	9,325	17,555	2,149	–	–	–	Passagers, nombre.
							Produits agricoles—
1,737	1,698	3,435	3,432	–	3,435	–	Orge.
1	2	3	–	–	3	–	Sarrasin.
2,483	19,598	22,081	15,893	–	16,396	5,685	Maïs.
178	438	616	–	272	616	–	Avoine.
–	–	–	–	–	–	–	Seigle.
550	–	550	–	2,223	550	–	Lin.
2	24	26	26	–	26	–	Pois
2,301	2,386	4,687	–	26,937	4,687	–	Blé.
1,188	961	2,149	721	–	2,149	–	Farine.
2,685	1,349	4,034	–	4,815	4,034	–	Foin.
194	589	783	–	74	783	–	Autres produits de meunerie.
248	196	444	–	103	444	–	Fruits et légumes.
49	240	289	–	164	289	–	Pommes de terre.
11,616	27,481	39,097	–	14,518	33,412	5,685	Total.
							Produits des animaux—
44	410	454	67	–	454	–	Animaux vivants.
6	34	40	–	94	40	–	Volaille, gibier et poisson.
2	1	3	–	1	3	–	Viande abattue.
136	152	288	93	–	288	–	Autres produits des fabricants de conserves.
–	14	14	5	–	14	–	Peaux et cuir.
–	2	2	–	3	2	–	Laine.
1,043	2,096	3,139	235	–	3,139	–	Tous autres produits des animaux.
1,231	2,709	3,940	302	–	3,940	–	Total.
							Manufactures—
82	28	110	–	29	110	–	Instruments aratoires.
1,954	131	2,085	861	–	2,085	–	Ciment, briques, chaux.
314	342	656	92	–	656	–	Meubles et objets mobiliers.
296	457	753	–	95	753	–	Fer en gueuse et en saumon.
5,550	5,754	11,304	6,539	–	9,745	1,559	Tous autres fer et acier.
7,760	326	8,086	1,844	–	8,086	–	Pétrole et autres huiles.
1,628	185	1,813	1,370	–	1,813	–	Sucre.
918	66	984	–	105	984	–	Sel.
1,966	285	2,251	602	–	2,251	–	Vins, liqueurs et bières.
11,091	11,162	22,253	1,394	–	19,211	3,042	Marchandise non énumérées.
31,559	18,736	50,295	12,480	–	45,694	4,601	Total.
							Produits forestiers—
1,835	–	1,835	1,745	–	1,835	–	Bois à pulpe.
13,967	41,321	55,288	–	57,378	55,288	–	Bois de construction scié.
13	1,644	1,657	–	194	1,657	–	Bois équarri.
2	200	202	202	–	202	–	Bardeaux.
904	5,926	6,830	2,691	–	6,830	–	Autres bois.
16,721	49,091	65,812	–	52,934	65,812	–	Total.
							Produits miniers—
805	9,001	9,806	–	4,592	17	9,789	Houille anthracite.
12,496	26,032	38,528	21,663	–	24,915	13,613	Houille bitumineuse.
–	–	–	–	–	–	–	Coke.
–	–	–	–	–	–	–	Minerai de cuivre.
–	–	–	–	–	–	–	Minerai de fer.
100	897	997	997	–	997	–	Autres minerais.
76,813	94,281	171,094	15,212	–	170,773	321	Sable, etc.
90,214	130,211	220,425	33,280	–	196,702	23,723	Total.
151,341	228,228	379,569	–	21,390	345,560	34,009	Grand total.

Tonnage net, enregistré, des navires. Tonnes (2,000 liv.) des cargaisons.

Table XXII—Statement of Traffic on the CHAMBLY Canal during 1921

Commodities	Total Number — Nombre total	From Canadian to Canadian Ports — De ports canadiens à ports canadiens		From Canadian to United States Ports — De ports canadiens à ports des Etats-Unis		From United States to United States Ports — De ports des Etats-Unis à port des Etats-Unis		From United States to Canadian Ports — De ports des Etats-Unis à ports canadiens	
		Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant
Canadian Vessels—Steam	260	21,924	21,819	–	–	–	–	–	–
Canadian Vessels—Sail	134	4,946	5,694	2,383	–	–	–	–	2,103
United States Vessels—Steam	2	–	12	5	–	–	–	–	–
United States Vessels—Sail	842	7,185	632	37,026	–	–	–	–	43,071
Total	1,238	34,055	28,157	39,414	–	–	–	–	45,174
Passengers ..... Number	–	733	416	–	–	–	–	–	–
Agricultural Products—									
Barley	–	–	–	–	–	–	–	–	–
Buckwheat	–	–	–	–	–	–	–	–	–
Corn	–	43	5	–	–	–	–	–	–
Oats	–	14	122	–	–	–	–	–	–
Rye	–	–	–	–	–	–	–	–	–
Flax	–	–	–	–	–	–	–	–	–
Peas	–	–	–	–	–	–	–	–	–
Wheat	–	–	–	–	–	–	–	–	–
Flour	–	548	27	–	–	–	–	–	–
Hay	–	214	3,453	565	–	–	–	–	–
Other mill products	–	180	129	–	–	–	–	–	–
Fruits and vegetables	–	–	291	–	–	–	–	–	–
Potatoes	–	2	19	–	–	–	–	–	–
Total	–	1,001	4,046	565	–	–	–	–	–
Animal Products—									
Live stock	–	7	89	–	–	–	–	–	–
Poultry, game and fish	–	–	–	78	–	–	–	–	–
Dressed meats	–	–	–	–	–	–	–	–	–
Other packing house products	–	43	449	–	–	–	–	–	–
Hides and leather	–	–	–	–	–	–	–	–	–
Wool	–	–	–	–	–	–	–	–	–
Animal products, all other	–	–	87	–	–	–	–	–	–
Total	–	50	625	78	–	–	–	–	–
Manufactures—									
Agricultural implements	–	111	6	–	–	–	–	–	–
Cement, bricks, lime	–	51	4	–	–	–	–	–	–
Household goods and furniture	–	273	78	–	–	–	–	–	–
Iron—Pig and bloom	–	–	–	–	–	–	–	–	–
Iron and steel, all other	–	261	24	977	–	–	–	–	–
Petroleum and other oils	–	115	7	–	–	–	–	–	20
Sugar	–	129	4	–	–	–	–	–	638
Salt	–	51	9	–	–	–	–	–	–
Wines, liquors and beers	–	96	2	–	–	–	–	–	–
Merchandise—Not enumerated	–	185	227	303	–	–	–	–	5,945
Total	–	1,272	361	1,280	–	–	–	–	6,603
Products of Forests—									
Pulpwood	–	194	–	18,150	–	–	–	–	–
Sawed lumber	–	1,351	60	45,675	–	–	–	–	–
Squared timber	–	–	109	719	830	–	–	–	–
Shingles	–	140	125	275	–	–	–	–	–
Other woods	–	–	1,922	2,036	–	–	–	–	–
Total	–	1,685	2,216	66,855	830	–	–	–	–
Products of Mines—									
Hard coal	–	–	–	–	–	–	–	–	84,663
Soft coal	–	–	–	–	–	–	–	–	–
Coke	–	–	–	200	–	–	–	–	602
Copper ore	–	–	–	–	–	–	–	–	–
Iron ore	–	–	–	–	–	–	–	–	–
Other ore	–	–	–	1,357	–	–	–	–	360
Sand, etc.	–	–	–	–	–	–	–	–	5,631
Total	–	–	–	1,557	–	–	–	–	91,256
Grand Total	1,238	4,008	7,248	70,335	830	–	–	–	97,859

Registered net toonage of vessels. Tons (2,000 lbs.) of cargoes.

Tableau XXII—Relevé du trafic sur le canal CHAMBLY en 1921

Tons — Tonnes		Total Tons — Tonnage total	Compared with 1920 — Comparé avec 1920		Origin of Cargo — Origine de la cargaison		Nomenclature
Up — En montant	Down — En descendant		Increase — Augmentation Tons — Tonnes	Decrease — Diminution Tons — Tonnes	Canadian — Canada	United States — Etats-Unis	
21,924	21,819	43,743	4,974	–	–	–	Navires canadiens, à vapeur.
7,329	7,797	15,126	–	23,771	–	–	Navires canadiens, à voiles.
5	12	17	–	75	–	–	Navires des Etats-Unis, à vapeur.
44,211	43,703	87,914	–	46,972	–	–	Navires des Etats-Unis, à voiles.
73,469	73,331	146,800	–	65,844	–	–	Total.
733	416	1,149	–	57	–	–	Passagers, nombre.
							Produits agricoles—
–	–	–	–	–	–	–	Orge.
–	–	–	–	–	–	–	Sarrasin.
43	5	48	–	13	48	–	Maïs.
14	122	136	–	358	136	–	Avoine.
–	–	–	–	–	–	–	Seigle.
–	–	–	–	3,271	–	–	Lin.
–	–	–		14	–	–	Pois.
–	–	–	–	13	–	–	Blé.
548	27	575	–	109	575	–	Farine.
779	3,453	4,232	–	10,791	4,232	–	Foin.
180	129	309	–	97	309	–	Autres produits de meunerie.
–	291	291	–	1,346	291	–	Fruits et légumes.
2	19	21	–	19	21	–	Pommes de terre.
1,566	4,046	5,612	–	16,031	5,612	–	Total.
							Produits des animaux.
7	89	96	–	188	96	–	Animaux vivants.
78	–	78	50	–	78	–	Volaille, gibier et poisson.
–	–	–	–	1	–	–	Viande abattue.
43	449	492	482	–	492	–	Autres produits des fabricants de conserves.
–	–	–	–	–	–	–	Peaux et cuir.
–	–	–	–	–	–	–	Laine.
–	87	87	87	–	87	–	Tous autres produits des animaux.
128	625	753	430	–	753	–	Total.
							Manufactures—
111	6	117	–	24	117	–	Instruments aratoires.
51	4	55	–	456	55	–	Ciment, briques, chaux.
273	78	351	328	–	351	–	Meubles et objets mobiliers.
–	–	–	–	2	–	–	Fer en gueuse et en saumon.
1,238	24	1,262	1,029	–	1,262	–	Tous autres fer et acier.
115	27	142	30	–	122	20	Pétrole et autres huiles.
129	642	771	682	–	133	638	Sucre.
51	9	60	–	22	60	–	Sel.
96	2	98	83	–	98	–	Vins, liqueurs et bières
488	6,172	6,660	–	11,317	715	5,945	Marchandise non énumérées.
2,552	6,964	9,516	–	9,669	2,913	6,603	Total.
							Produits forestiers—
18,344	–	18,344	–	83,760	18,344	–	Bois à pulpe.
47,026	60	47,086	–	44,511	47,086	–	Bois de construction scié.
719	939	1,658	879	–	1,658	–	Bois équarri.
415	125	540	495	–	540	–	Bardeaux.
2,036	1,922	3,958	–	6,201	3,958	–	Autres bois.
68,540	3,046	71,586	–	133,008	71,586	–	Total.
							Produits miniers—
–	84,663	84,663	12,762	–	–	84,663	Houille anthracite.
–	–	–	–	–	–	–	Houille bitumineuse.
200	602	802	802	–	200	602	Coke.
–	–	–	–	–	–	–	Minerai de cuivre.
–	–	–	–	–	–	–	Minerai de fer.
1,357	360	1,717	1,717	–	1,357	360	Autres minerais.
–	5,631	5,631	–	1,955	–	5,631	Sable, etc.
1,557	91,256	92,813	13,326	–	1,557	91,256	Total.
74,343	105,937	180,280	–	145,042	82,421	97,859	Grand total.

Tonnage net, enregistré, des navires. Tonnes (2,000 liv.) des cargaisons.

Table XXIII—Statement of Traffic on the ST. PETER'S Canal during 1921

Commodities	Total Number — Nombre total	From Canadian to Canadian Ports — De ports canadiens à ports canadiens		From Canadian to United States Ports — De ports canadiens à ports des Etats-Unis		From United States to United States Ports — De ports des Etats-Unis à port des Etats-Unis		From United States to Canadian Ports — De ports des Etats-Unis à ports canadiens	
		Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant
Canadian Vessels—Steam	340	17,089	15,453	-	-	-	-	-	-
Canadian Vessels—Sail	769	20,772	23,013	-	-	-	-	-	-
United States Vessels—Steam	4	-	152	-	12	-	-	383	-
United States Vessels—Sail	4	-	-	-	20	9	-	122	-
Total	1,117	37,861	38,618	-	32	9	-	505	-
Passengers	-	374	383	-	-	-	-	-	-
Agricultural Products—									
Barley	-	-	-	-	-	-	-	-	-
Buckwheat	-	-	-	-	-	-	-	-	-
Corn	-	-	-	-	-	-	-	-	-
Oats	-	128	87	-	-	-	-	-	-
Rye	-	-	-	-	-	-	-	-	-
Flax	-	-	-	-	-	-	-	-	-
Peas	-	-	-	-	-	-	-	-	-
Wheat	-	2	-	-	-	-	-	-	-
Flour	-	1,047	835	-	-	-	-	-	-
Hay	-	497	89	-	-	-	-	-	-
Other Mill Products	-	212	841	-	-	-	-	-	-
Fruits and Vegetables	-	878	13	-	-	-	-	-	-
Potatoes	-	5,115	74	-	-	-	-	-	-
Total	-	7,879	1,939	-	-	-	-	-	-
Animal Products—									
Live Stock	-	12	2	-	-	-	-	-	-
Poultry, game and fish	-	343	2,186	-	-	-	-	-	-
Dressed meats	-	23	-	-	-	-	-	-	-
Other packing house products	-	131	2	-	-	-	-	-	-
Hides and leather	-	-	1	-	-	-	-	-	-
Wool	-	-	-	-	-	-	-	-	-
Animal products, all other	-	1	-	-	-	-	-	-	-
Total	-	510	2,191	-	-	-	-	-	-
Manufactures—									
Agricultural implements	-	-	-	-	-	-	-	-	-
Cement, bricks, lime	-	577	971	-	-	-	-	-	-
Household goods and furniture	-	-	5	-	-	-	-	-	-
Iron—Pig and bloom	-	23	2	-	-	-	-	-	-
Iron and steel, all other	-	72	136	-	-	-	-	-	-
Petroleum and other oils	-	184	136	-	-	-	-	-	-
Sugar	-	15	3	-	-	-	-	-	-
Salt	-	872	87	-	-	-	-	-	-
Wines, liquors and beers	-	-	-	-	-	-	-	-	-
Merchandise—Not enumerated	-	2,520	1,264	-	-	-	-	-	-
Total	-	4,263	2,604	-	-	-	-	-	-
Products of Forests—									
Pulpwood	-	-	-	-	-	-	-	-	-
Sawed lumber	-	39	308	-	-	-	-	-	-
Squared timber	-	-	-	-	-	-	-	-	-
Shingles	-	-	-	-	-	-	-	-	-
Other woods	-	114	30	-	-	-	-	-	-
Total	-	153	338	-	-	-	-	-	-
Products of Mines—									
Hard coal	-	107	-	-	-	-	-	-	-
Soft coal	-	366	34,077	-	-	-	-	-	-
Coke	-	-	-	-	-	-	-	-	-
Copper ore	-	-	-	-	-	-	-	-	-
Iron ore	-	-	-	-	-	-	-	-	-
Other ore	-	5	105	-	-	-	-	-	-
Sand, etc	-	-	1,586	-	-	-	-	-	-
Total	-	478	35,768	-	-	-	-	-	-
Grand Total	1,117	13,283	42,848	-	-	-	-	-	-

Registered net tonnage of vessels. Tons (2,000 lbs.) of cargoes.

NOTE.—In addition to the above, 652 fishing boats, carrying an aggregate cargo of 2,050 tons, passed through St. Peter's canal during 1921.

Tableau XXIII—Relevé du trafic sur le canal ST-PIERRE en 1921

Tons — Tonnes		Total Tons — Tonnage total	Compared with 1920 — Comparé avec 1920		Origin of Cargo — Origine de la cargaison		Nomenclature
Up — En montant	Down — En descendant		Increase — Augmentation Tons — Tonnes	Decrease — Diminution Tons — Tonnes	Canada — Canada	United States — Etats-Unis	
17,089	15,543	32,542	1,152	–	32,542	–	Navires canadiens, à vapeur.
20,772	23,013	43,785	–	7,733	43,785	–	Navires canadiens, à voiles.
383	164	547	23	–	–	547	Navires des Etats-Unis, à vapeur.
131	20	151	151	–	–	151	Navires des Etats-Unis, à voiles.
38,375	38,740	77,025	–	6,407	76,327	698	Total.
374	383	757	–	1,124	–	–	Passagers.
							Produits agricoles—
–	–	–	–	5	–	–	Orge.
–	–	–	–	–	–	–	Sarrasin.
–	–	–	–	6	–	–	Maïs.
128	87	215	–	545	215	–	Avoine.
–	–	–	–	–	–	–	Seigle.
–	–	–	–	–	–	–	Lin.
–	–	–	–	–	–	–	Pois.
2	–	2	2	–	2	–	Blé.
1,047	835	1,882	752	–	1,882	–	Farine.
497	89	586	–	769	586	–	Foin.
212	841	1,053	443	–	1,053	–	Autres produits de meunerie.
878	13	891	–	67	891	–	Fruits et légumes.
5,115	74	5,189	1,716	–	5,189	–	Pommes de terre.
7,879	1,939	9,818	1,521	–	9,818	–	Total.
							Produits des animaux—
12	2	14	–	28	14	–	Animaux vivants.
343	2,186	2,529	1,069	–	2,529	–	Volaille, gibier et poisson.
23	–	23	22	–	23	–	Viandes abattues.
131	2	133	30	–	133	–	Autres produits des fabricants de conserves.
–	1	1	–	–	1	–	Peaux et cuir.
–	–	–	–	–	–	–	Laine.
1	–	1	–	19	1	–	Tous autres produits des animaux.
510	2,191	2,701	1,074	–	2,701	–	Total.
							Manufactures—
–	–	–	–	–	–	–	Instruments aratoires.
577	971	1,548	491	–	1,548	–	Ciment, briques, chaux.
–	5	5	–	7	5	–	Meubles et objets mobiliers.
23	2	25	–	65	25	–	Fer en gueuse et en saumon.
72	136	208	–	293	208	–	Tous autres fer et acier.
184	136	320	–	656	320	–	Pétrole et autres huiles.
15	3	18	–	13	18	–	Sucre.
872	87	959	351	–	959	–	Sel.
–	–	–	–	–	–	–	Vins, liqueurs et bières.
2,520	1,264	3,784	27	–	3,784	–	Marchandises non énumérées.
4,263	2,604	6,867	–	165	6,867	–	Total.
							Produits forestiers—
–	–	–	–	–	–	–	Bois à pulpe.
39	308	347	–	243	347	–	Bois de construction sciés.
–	–	–	–	70	–	–	Bois équarris.
–	–	–	–	25	–	–	Bardeaux.
114	30	144	–	224	144	–	Autres bois.
153	338	491	–	562	491	–	Total.
							Produits miniers—
107	–	107	4	–	107	–	Houille anthracite.
366	34,077	34,443	–	6,693	34,443	–	Houille bitumineuse.
–	–	–	–	160	–	–	Coke.
–	–	–	–	–	–	–	Minerais de cuivre.
–	–	–	–	–	–	–	Minernis de fer.
5	105	110	–	1,300	110	–	Autres minerais.
–	1,586	1,586	1,031	–	1,586	–	Sable, etc.
478	35,768	36,246	–	7,118	36,246	–	Total.
13,283	42,840	56,123	–	5,250	56,123	–	Grand total.

Tonnage net, enregistré, des navires. Tonnes (2,000 liv.) des cargaisons.

NOTA.—En outre, 652 bateaux de pêche, transportant tous ensemble une cargaison de 2,050 tonnes, ont navigué dan le canal St-Pierre en 1921.

Table XXIV—Statement of Traffic on the MURRAY Canal during 1921

Commodities	Total Number — Nombre total	From Canadian to Canadian Ports — De ports canadiens à ports canadiens		From Canadian to United States Ports — De ports canadiens à ports des Etats-Unis		From United States to United States Ports — De ports des Etats-Unis à port des Etats-Unis		From United States to Canadian Ports — De ports des Etats-Unis à ports canadiens	
		Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant
Canadian Vessels—Steam	293	21,088	15,239	922	88	–	–	46	13
Canadian Vessels—Sail	139	11,907	8,423	–	–	–	–	–	–
United States Vessels—Steam	41	115	185	102	201	52	–	214	218
United States Vessels—Sail	12	38	–	5	–	–	–	5	10
Total	485	33,148	23,847	1,029	289	52	–	265	241
Passengers ..... Number	–	3,548	3,556	–	–	–	–	–	–
Agricultural Products—									
Barley	–	–	–	–	–	–	–	–	–
Buckwheat	–	–	–	–	–	–	–	–	–
Corn	–	–	–	–	–	–	–	–	–
Oats	–	–	–	–	–	–	–	–	–
Rye	–	–	–	–	–	–	–	–	–
Flax	–	–	–	–	–	–	–	–	–
Peas	–	–	–	–	–	–	–	–	–
Wheat	–	–	–	–	–	–	–	–	–
Flour	–	–	–	–	–	–	–	–	–
Hay	–	–	–	–	–	–	–	–	–
Other mill products	–	–	–	–	–	–	–	–	–
Fruits and vegetables	–	–	–	–	–	–	–	–	–
Potatoes	–	–	–	–	–	–	–	–	–
Total	–	–	–	–	–	–	–	–	–
Animal Products—									
Live stock	–	–	–	–	–	–	–	–	–
Poultry, game and fish	–	–	–	–	–	–	–	–	–
Dressed meats	–	–	–	–	–	–	–	–	–
Other packing house products	–	–	–	–	–	–	–	–	–
Hides and leather	–	–	–	–	–	–	–	–	–
Wool	–	–	–	–	–	–	–	–	–
Animal products, all other	–	–	–	–	–	–	–	–	–
Total		–	–	–	–	–	–	–	–
Manufactures—									
Agricultural implements	–	–	–	–	–	–	–	–	–
Cement, bricks, lime	–	–	–	–	–	–	–	–	–
Household goods and furniture	–	–	–	–	–	–		–	–
Iron—Pig and bloom	–	–	–	–	–	–	–	–	–
Iron and steel, all other	–	–	–	–	–	–	–	–	–
Petroleum and other oils	–	–	–	–		–	–	–	–
Sugar	–	–	–	–	–	–	–	–	–
Salt	–	–	–	–	–	–	–	–	–
Wines, liquors and beers	–	–	–	–	–	–	–	–	–
Merchandise—Not enumerated	–	535	245	–	–	–	–	–	–
Total	–	535	245	–	–	–	–	–	–
Products of Forests—									
Pulpwood	–		–	–	–	–	–	–	–
Sawed lumber	–	–	–	–	–	–	–	–	–
Squared timber	–	–	–	–	–	–	–	–	–
Shingles	–	–	–	–	–	–	–	–	–
Other woods	–	–	75	–	–	–	–	–	–
Total	–	–	75	–	–	–		–	–
Products of Mines—									
Hard coal	–	–	–	–	–	–	–	–	–
Soft coal	–	35	–	–	–	–	–	–	–
Coke	–	–	–	–	–	–	–	–	–
Copper ore	–	–	–	–	–	–	–	–	–
Iron ore	–	–	–	–	–	–	–	–	–
Other ore	–	–	–	–	–	–	–	–	–
Sand, etc.	–	44,390	–	–	–	–	–	–	–
Total	–	44,425	–	–	–	–	–	–	–
Grand Total	485	44,960	320	–		–	–	–	–

Registered net tonnage of vessels. Tons (2,000 lbs.) of cargoes.

Tableau XXIV—Relevé du trafic sur le canal MURRAY en 1921

Tons — Tonnes		Total Tons — Tonnage total	Compared with 1920 — Comparé avec 1920		Origin of Cargo — Origine de la cargaison		Nomenclature
Up — En montant	Down — En descendant		Increase — Augmentation Tons — Tonnes	Decrease — Diminution Tons — Tonnes	Canada — Canada	United States — Etats-Unis	
22,056	15,340	37,396	–	22,033	–	–	Navires canadiens, à vapeur.
11,907	8,423	20,330	–	62,973	–	–	Navires canadiens, à voiles.
483	604	1,087	313	–	–	–	Navires des Etats-Unis, à vapeur.
48	10	58	–	10	–	–	Navires des Etats-Unis, à voiles.
34,494	24,377	58,871	–	84,753	–	–	Total.
3,548	3,556	7,104	3,690	–	–	–	Passagers, nombre.
							Produits agricoles—
–	–	–	–	–	–	–	Orge.
–	–	–	–	–	–	–	Sarrasin.
–	–	–	–	–	–	–	Maïs.
–	–	–	–	–	–	–	Avoine.
–	–	–	–	–	–	–	Seigle.
–	–	–	–	–	–	–	Lin.
–	–	–	–	–	–	–	Pois.
–	–	–	–	–	–	–	Blé.
–	–	–	–	–	–	–	Farine.
–	–	–	–	–	–	–	Foin.
–	–	–	–	–	–	–	Autres produits de meunerie.
–	–	–	–	–	–	–	Fruits et légumes.
–	–	–	–	–	–	–	Pommes de terre.
–	–	–	–	–	–	–	Total.
							Produits des animaux—
–	–	–	–	–	–	–	Animaux vivants.
–	–	–	–	–	–	–	Volaille, gibier et poisson.
–	–	–	–	–	–	–	Viande abattue.
–	–	–	–	–	–	–	Autres produits des fabricants de conserves.
–	–	–	–	–	–	–	Peaux et cuir.
–	–	–	–	–	–	–	Laine.
–	–	–	–	–	–	–	Tous autres produits des animaux.
–	–	–	–	–	–	–	Total.
							Manufactures—
–	–	–	–	–	–	–	Instruments aratoires.
–	–	–	–	1,300	–	–	Ciment, briques, chaux.
–	–	–	–	–	–	–	Meubles et objets mobiliers.
–	–	–	–	–	–	–	Fer en gueuse et en saumon.
–	–	–	–	300	–	–	Tous autres fer et acier.
–	–	–	–	–	–	–	Pétrole et autres huiles.
–	–	–	–	–	–	–	Sucre.
–	–	–	–	–	–	–	Sel.
–	–	–	–	60	–	–	Vins, liqueurs et bières.
535	245	780	–	6,075	780	–	Marchandises non énumérées.
535	245	780	–	7,735	780	–	Total.
							Produits forestiers—
–	–	–	–	–	–	–	Bois à pulpe.
–	–	–	–	–	–	–	Bois de construction scié.
–	–	–	–	–	–	–	Bois équarri.
–	–	–	–	–	–	–	Bardeaux.
–	75	75	75	–	75	–	Autres bois.
–	75	75	75	–	75	–	Total.
							Produits miniers—
–	–	–	–	1,278	–	–	Houille anthracite.
35	–	35	35	–	35	–	Houille bitumineuse.
–	–	–	–	–	–	–	Coke.
–	–	–	–	–	–	–	Minerai de cuivre.
–	–	–	–	–	–	–	Minerai de fer.
–	–	–	–	–	–	–	Autres minerais.
44,390	–	44,390	–	82,052	44,390	–	Sable, etc.
44,425	–	44,425	–	83,295	44,425	–	Total.
44,960	320	45,280	–	90,955	45,280	–	Grand total.

Tonnage net, enregistré, des navires. Tonnes (2,000 liv.) des cargaisons.

Table XXV—Statement of Traffic on the OTTAWA Canals during 1921

Commodities	Total Number — Nombre total	From Canadian to Canadian Ports — De ports canadiens à ports canadiens		From Canadian to United States Ports — De ports canadiens à ports des Etats-Unis		From United States to United States Ports — De ports des Etats-Unis à port des Etats-Unis		From United States to Canadian Ports — De ports des Etats-Unis à ports canadiens	
		Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant
Canadian Vessels—Steam	832	30,944	32,865	–	–	–	–	–	–
Canadian Vessels—Sail	874	82,773	82,587	–	30	–	–	–	–
United States Vessels—Steam	–	–	–	–	–	–	–	–	–
United States Vessels—Sail	10	2,797	646	–	5,269	–	–	2,418	–
Total	1,807	116,516	116,095	–	5,570	–	–	2,418	–
Passengers ..... Number		1,156	1,556	–	–	–	–	–	–
Agricultural Products—									
Barley	–	–	–	–	–	–	–	–	–
Buckwheat	–	1	2	–	–	–	–	–	–
Corn	–	33	4	–	–	–	–	–	–
Oats	–	177	27	–	–	–	–	–	–
Rye	–	–	–	–	–	–	–	–	–
Flax	–	–	–	–	–	–	–	–	–
Peas	–	1	24	–	–	–	–	–	–
Wheat	–	34	4	–	–	–	–	–	–
Flour	–	420	62	–	–	–	–	–	–
Hay	–	6	983	–	–	–	–	–	–
Other mill products	–	180	379	–	–	–	–	–	–
Fruits and vegetables	–	149	149	–	–	–	–	–	–
Potatoes	–	30	245	–	–	–	–	–	–
Total	–	1,031	1,879	–	–	–	–	–	–
Animal Products—									
Live stock	–	9	288	–	–	–	–	–	–
Poultry, game and fish	–	4	31	–	–	–	–	–	–
Dressed meats	–	2	1	–	–	–	–	–	–
Other packing house products	–	124	35	–	–	–	–	–	–
Hides and leather	–	–	2	–	–	–	–	–	–
Wool	–	–	–	–	–	–	–	–	–
Animal products, all other	–	81	1,899	–	–	–	–	–	–
Total	–	220	2,256	–	–	–	–	–	–
Manufactures—									
Agricultural implements	–	77	24	–	–	–	–	–	–
Cement, bricks, lime	–	401	47	–	–	–	–	–	–
Household goods and furniture	–	131	138	–	–	–	–	–	–
Iron—Pig and bloom	–	147	–	–	–	–	–	–	–
Iron and steel, all other	–	1,350	7	–	–	–	–	–	–
Petroleum and other oils	–	449	156	–	–	–	–	–	–
Sugar	–	1,231	28	–	–	–	–	–	–
Salt	–	746	3	–	–	–	–	–	–
Wines, liquors and beers	–	1,712	18	–	–	–	–	–	–
Merchandise—Not enumerated	–	5,354	5,047	–	–	–	–	2,701	–
Total	–	11,598	5,468	–	–	–	–	2,701	–
Products of Forests—									
Pulpwood	–	–	–	–	–	–	–	–	–
Sawed lumber	–	91	30,555	–	10,807	–	–	–	–
Squared timber	–	–	1,706	–	1,131	–	–	–	–
Shingles	–	–	131	–	–	–	–	–	–
Other woods	–	447	4,575	–	1,246	–	–	–	–
Total	–	538	36,967	–	13,184	–	–	–	–
Products of Mines—									
Hard coal	–	15	–	–	–	–	–	790	–
Soft coal	–	1,191	–	–	–	–	–	–	–
Coke	–	–	–	–	–	–	–	–	–
Copper ore	–	–	–	–	–	–	–	–	–
Iron ore	–	–	–	–	–	–	–	–	–
Other ore	–	–	–	–	–	–	–	–	–
Sand, etc.	–	–	93,931	–	–	–	–	–	–
Total	–	1,206	93,931	–	–	–	–	790	–
Grand Total	1,807	14,593	140,501	–	13,184	–	–	3,491	–

Registered net tonnage of vessels. Tons (2,000 lbs.) of cargoes.

Tableau XXV—Relevé du trafic sur les canaux de l'OTTAWA en 1921

Tons — Tonnes		Total Tons — Tonnage total	Compared with 1920 — Comparé avec 1920		Origin of Cargo — Origine de la cargaison		Nomenclature
Up — En montant	Down — En descendant		Increase — Augmentation Tons — Tonnes	Decrease — Diminution Tons — Tonnes	Canada — Canada	United States — Etats-Unis	
30,944	32,862	63,806	13,857	–	–	–	Navires canadiens, à vapeur.
82,775	82,888	165,663	–	34,322	–	–	Navires canadiens, à voiles.
–	–	–	–	–	–	–	Navires des Etats-Unis, à vapeur.
5,215	5,915	11,130	–	8,065	–	–	Navires des Etats-Unis, à voiles.
118,934	121,665	240,599	–	28,530	–	–	Total.
1,156	1,556	2,712	2,162	–	–	–	Passagers .....Nombre.
							Produits agricoles—
–	–	–	–	–	–	–	Orge.
1	2	3	1	–	3	–	Sarrasin.
33	4	37	13	–	37	–	Maïs.
177	27	204	–	191	204	–	Avoine.
–	–	–	–	–	–	–	Seigle.
–	–	–	–	–	–	–	Lin.
1	24	25	25	–	25	–	Pois.
34	4	38	3	–	38	–	Blé.
420	62	482	–	69	482	–	Farine.
6	983	989	524	–	989	–	Foin.
180	379	559	102	–	559	–	Autres produits de meunerie.
149	149	298	–	23	298	–	Fruits et légumes.
30	245	275	–	147	275	–	Pommes de terre.
1,031	1,879	2,910	238	–	2,910	–	Total.
							Produits des animaux—
9	288	297	19	–	297	–	Animaux vivants.
4	31	35	1	–	35	–	Volaille, gibier et poisson.
2	1	3	3	–	3	–	Viande abattue.
124	35	159	–	20	159	–	Autres produits des fabricants de conserves.
–	2	2	–	1	2	–	Peaux et cuir.
–	–	–	–	5	–	–	Lianes.
81	1,899	1,980	10	–	1,980	–	Tous autres produits des animaux.
220	2,256	2,476	7	–	2,476	–	Total.
							Manufacturiers—
77	24	101	–	27	101	–	Instruments aratoires.
401	47	448	1	–	448	–	Ciment, liqueurs, chaux.
131	138	269	4	–	269	–	Meubles et objets mobiliers.
147	–	147	–	1	147	–	Fer en gueuse et en saumon.
1,350	7	1,357	56	–	1,357	–	Tous autres fer et acier.
449	156	605	–	239	605	–	Pétrole et autres huiles.
1,231	28	1,259	813	–	1,259	–	Sucre.
746	3	749	–	210	749	–	Sel.
1,712	18	1,730	300	–	1,730	–	Vins, liqueurs et bières.
8,055	5,047	13,102	–	2,790	10,401	2,701	Marchandises non énumérées.
14,299	5,468	19,767	–	2,093	17,066	2,701	Total.
							Produits forestiers—
–	–	–	–	–	–	–	Bois à pulpe.
91	41,362	41,453	–	56,560	41,453	–	Bois de construction scié.
–	2,837	2,837	1,413	–	2,837	–	Bois équarri.
–	131	131	131	–	131	–	Bardeaux.
447	5,821	6,268	203	–	6,268	–	Autres bois.
538	50,151	50,689	–	54,813	50,689	–	Total.
							Produits miniers—
805	–	805	–	86	15	790	Houille anthracite.
1,191	–	1,191	–	1,389	1,191	–	Houille bitumineuse.
–	–	–	–	–	–	–	Coke.
–	–	–	–	–	–	–	Minerai de cuivre.
–	–	–	–	–	–	–	Minerai de fer.
–	–	–	–	–	–	–	Autres minerais.
–	93,931	93,931	–	3,424	93,931	–	Sable, etc.
1,996	93,931	95,927	–	4,899	95,137	790	Total.
18,084	153,685	171,769	–	61,560	168,278	3,491	Grand total.

Tonnage net, enregistré, des navires. Tonnes (2,000 liv.) des cargaisons.

Table XXVI—Statement of Traffic on the RIDEAU Canals during 1921

Commodities	Total Number — Nombre total	From Canadian to Canadian Ports — De ports canadiens à ports canadiens		From Canadian to United States Ports — De ports canadiens à ports des Etats-Unis		From United States to United States Ports — De ports des Etats-Unis à port des Etats-Unis		From United States to Canadian Ports — De ports des Etats-Unis à ports canadiens	
		Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant
Canadian Vessels—Steam	1,227	39,764	39,976	1,095	–	–	–	–	1,387
Canadian Vessels—Sail	214	8,725	8,885	–	–	–	–	–	–
United States Vessels—Steam	–	–	–	–	–	–	–	–	–
United States Vessels—Sail	2	102	102	–	–	–	–	–	–
Total	1,443	48,591	48,963	1,095	–	–	–	–	1,387
Passengers ... Number	–	5,899	5,585	–	–	–	–	–	–
Agricultural Products—									
Barley	–	–	–	–	–	–	–	–	–
Buckwheat	–	–	–	–	–	–	–	–	–
Corn	–	–	3	–	–	–	–	–	–
Oats	–	3	2	–	–	–	–	–	–
Rye	–	–	–	–	–	–	–	–	–
Flax	–	–	–	–	–	–	–	–	–
Peas	–	–	24	–	–	–	–	–	–
Wheat	–	–	–	–	–	–	–	–	–
Flour	–	34	48	–	–	–	–	–	–
Hay	–	282	154	–	–	–	–	–	–
Other mill products	–	122	205	–	–	–	–	–	–
Fruits and vegetables	–	12	45	–	–	–	–	–	–
Potatoes	–	–	144	–	–	–	–	–	–
Total	–	453	625	–	–	–	–	–	–
Animal Products—									
Live stock	–	4	–	–	–	–	–	–	–
Poultry, game and fish	–	–	–	–	–	–	–	–	–
Dressed meats	–	–	1	–	–	–	–	–	–
Other packing house products	–	151	63	–	–	–	–	–	–
Hides and leather	–	–	1	–	–	–	–	–	–
Wool	–	–	–	–	–	–	–	–	–
Animal products, all other	–	146	1,011	–	–	–	–	–	–
Total	–	301	1,076	–	–	–	–	–	–
Manufactures—									
Agricultural implements	–	–	58	–	–	–	–	–	–
Cement, bricks, lime	–	258	100	–	–	–	–	–	–
Household goods and furniture	–	68	59	–	–	–	–	–	–
Iron—Pig and blooom	–	96	–	–	–	–	–	–	–
Iron and steel, all other	–	1,302	8	–	–	–	–	–	–
Petroleum and other oils	–	131	269	–	–	–	–	–	–
Sugar	–	712	41	–	–	–	–	–	–
Salt	–	471	2	–	–	–	–	–	–
Wines, liquors and beers	–	607	95	–	–	–	–	–	–
Merchandise—Not enumerated	–	5,596	4,324	–	–	–	–	–	–
Total	–	9,241	4,956	–	–	–	–	–	–
Products of Forests—									
Pulpwood	–	130	942	–	–	–	–	–	–
Sawed lumber	–	308	1,759	3	–	–	–	–	–
Squared timber	–	949	6	–	–	–	–	–	–
Shingles	–	6	–	–	–	–	–	–	–
Other woods	–	348	162	–	–	–	–	–	–
Total	–	1,741	2,869	3	–	–	–	–	–
Products of Mines—									
Hard coal	–	15	618	–	–	–	–	–	2,366
Soft coal	–	44	11	–	–	–	–	–	–
Coke	–	–	–	–	–	–	–	–	–
Copper ore	–	–	–	–	–	–	–	–	–
Iron ore	–	–	–	–	–	–	–	–	–
Other ore	–	–	–	–	–	–	–	–	–
Sand, etc	–	52,255	18,438	–	–	–	–	–	–
Total	–	52,314	19,067	–	–	–	–	–	2,366
Grand Total	1,443	64,050	28,593	3	–	–	–	–	2,366

Registered net tonnage of vessels. Tons (2,000 lbs.) of cargoes.

Tableau XXVI—Relevé du trafic sur les canaux RIDEAU en 1921

Tons — Tonnes		Total Tons — Tonnage total	Compared with 1920 — Comparé avec 1920		Origin of Cargo — Origine de la cargaison		Nomenclature
Up — En montant	Down — En descendant		Increase — Augmentation Tons — Tonnes	Decrease — Diminution Tons — Tonnes	Canadian — Canada	United States — Etats-Unis	
40,859	41,363	82,222	6,630	–	–	–	Navires canadiens, à vapeur.
8,725	8,885	17,610	–	25,549	–	–	Navires canadiens, à voiles.
–	–	–	–	622	–	–	Navires des Etats-Unis, à vapeur.
102	102	204	–	298	–	–	Navires des Etats-Unis, à voiles.
49,686	50,350	100,036	–	19,839	–	–	Total.
5,899	5,585	11,484	–	3,301	–	–	Passagers .....Nombre.
							Produits agricoles—
–	–	–	–	–	–	–	Orge.
–	–	–	–	–	–	–	Sarrasin.
–	3	3	2	–	3	–	Maïs.
3	2	5	–	394	5	–	Avoine.
–	–	–	–	–	–	–	Seigle.
–	–	–	–	–	–	–	Lin.
–	24	24	24	–	24	–	Pois.
–	–	–	–	–	–	–	Blé.
34	48	82	–	65	82	–	Farine.
282	154	436	–	335	436	–	Foin.
122	205	327	202	–	327	–	Autres produits de meunerie.
12	45	57	–	14	56	1	Fruits et légumes.
–	144	144	16	–	144	–	Pommes de terre.
453	625	1,078	–	564	1,077	1	Total.
							Produits des animaux—
4	–	4	–	9	4	–	Animaux vivants.
–	–	–	–	8	–	–	Volaille, gibier et poisson.
–	1	1	–	7	1	–	Viande abattue.
151	63	214	26	–	214	–	Autres produits des fabricants de conserves.
–	1	1	1	–	1	–	Peaux et cuir.
–	–	–	–	–	–	–	Laine.
146	1,011	1,157	–	623	1,157	–	Tous autres produits des animaux.
301	1,076	1,377	–	620	1,377	–	Total.
							Manufactures—
–	58	58	–	37	58	–	Instruments aratoires.
258	100	358	81	–	358	–	Ciment, briques, chaux.
68	59	127	–	32	127	–	Meubles et objets mobiliers.
96	–	96	–	91	96	–	Fer en gueuse et en saumon.
1,302	8	1,310	–	652	1,310	–	Tous autres fer et acier.
131	269	400	–	310	399	1	Pétrole et autres huiles.
712	41	753	503	–	753	–	Sucre.
471	2	473	–	677	473	–	Sel.
607	95	702	–	1,178	702	–	Vins, liqueurs et bières.
5,596	4,324	9,920	–	406	9,920	–	Marchandises non énumérées.
9,241	4,956	14,197	–	2,799	14,196	1	Total.
							Produits forestiers—
130	942	1,072	1,045	–	1,072	–	Bois à pulpe.
311	1,759	2,070	–	4,669	2,070	–	Bois de construction scié.
949	6	955	955	–	955	–	Bois équarri.
6	–	6	–	65	6	–	Bardeaux.
348	162	510	–	575	510	–	Autres bois.
1,744	2,869	4,613	–	3,309	4,613	–	Total.
							Produits miniers—
15	2,984	2,999	1,984	–	4	2,995	Houille anthracite.
44	11	55	–	1,765	55	–	Houille bitumineuse.
–	–	–	–	–	–	–	Coke.
–	–	–	–	–	–	–	Minerai de cuivre.
–	–	–	–	–	–	–	Minerai de fer.
–	–	–	–	–	–	–	Autres minerais.
52,255	18,438	70,693	4,248	–	70,693	–	Sable, etc.
52,314	21,433	73,747	4,467	–	70,752	2,995	Total.
64,053	30,959	95,012	–	2,825	92,015	2,997	Grand total.

Tonnage net, enregistré, des navires. Tonnes (2,000 liv.) des cargaisons.

Table XXVII—Statement of Traffic on the TRENT Canal during 1921

Commodities	Total Number — Nombre total	From Canadian to Canadian Ports — De ports canadiens à ports canadiens		From Canadian to United States Ports — De ports canadiens à ports des Etats-Unis		From United States to United States Ports — De ports des Etats-Unis à port des Etats-Unis		From United States to Canadian Ports — De ports des Etats-Unis à ports canadiens	
		Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant	Up — En montant	Down — En descendant
Canadian Vessels—Steam	4,589	64,018	59,745	-	-	-	-	-	-
Canadian Vessels—Sail	607	16,868	12,239	-	-	-	-	-	-
United States Vessels—Steam	26	95	87	-	-	-	-	63	-
United States Vessels—Sail	-	-	-	-	-	-	-	-	-
Total	5,222	80,981	72,071	-	-	-	-	63	-
Passengers ... Number	-	52,352	47,697	-	-	-	-	-	-
Agricultural Products—									
Barley	-	-	-	-	-	-	-	-	-
Buckwheat	-	50	-	-	-	-	-	-	-
Corn	-	-	-	-	-	-	-	-	-
Oats	-	12	68	-	-	-	-	-	-
Rye	-	-	-	-	-	-	-	-	-
Flax	-	-	-	-	-	-	-	-	-
Peas	-	3	50	-	-	-	-	-	-
Wheat	-	1,192	-	-	-	-	-	-	-
Flour	-	4	9	-	-	-	-	-	-
Hay	-	11	-	-	-	-	-	-	-
Other mill products	-	14	9	-	-	-	-	-	-
Fruits and vegetables	-	6	-	-	-	-	-	-	-
Potatoes	-	32	4	-	-	-	-	-	-
Total	-	1,324	140	-	-	-	-	-	-
Animal Products—									
Live stock	-	124	2	-	-	-	-	-	-
Poultry, game and fish	-	-	-	-	-	-	-	-	-
Dressed meats	-	-	-	-	-	-	-	-	-
Other packing house products	-	-	-	-	-	-	-	-	-
Hides and leather	-	-	-	-	-	-	-	-	-
Wool	-	-	-	-	-	-	-	-	-
Animal products, all other	-	18	21	-	-	-	-	-	-
Total	-	142	23	-	-	-	-	-	-
Manufactures—									
Agricultural implements	-	16	7	-	-	-	-	-	-
Cement, bricks, lime	-	111	188	-	-	-	-	-	-
Household goods and furniture	-	35	78	-	-	-	-	-	-
Iron—Pig and bloom	-	14	10	-	-	-	-	-	-
Iron and steel, all other	-	45	15	-	-	-	-	-	-
Petroleum and other oils	-	72	2	-	-	-	-	-	-
Sugar	-	1	-	-	-	-	-	-	-
Salt	-	-	-	-	-	-	-	-	-
Wines, liquors and beers	-	3	-	-	-	-	-	-	-
Merchandise—Not enumerated	-	918	682	-	-	-	-	-	-
Total	-	1,215	982	-	-	-	-	-	-
Products of Forests—									
Pulpwood	-	2	15,800	-	-	-	-	-	-
Sawed lumber	-	939	2,528	-	-	-	-	-	-
Squared timber	-	2,961	67	-	-	-	-	-	-
Shingles	-	26	204	-	-	-	-	-	-
Other woods	-	7,563	9,765	-	-	-	-	-	-
Total	-	11,491	28,364	-	-	-	-	-	-
Products of Mines—									
Hard coal	-	63	31	-	-	-	-	-	-
Soft coal	-	28	72	-	-	-	-	-	-
Coke	-	-	-	-	-	-	-	-	-
Copper ore	-	-	-	-	-	-	-	-	-
Iron ore	-	-	-	-	-	-	-	-	-
Other ore	-	-	-	-	-	-	-	-	-
Sand, etc.	-	179	193	-	-	-	-	-	-
Total	-	270	296	-	-	-	-	-	-
Grand Total	5,222	14,442	29,805	-	-	-	-	-	-

Registered net tonnage of vessels. Tons (2,000 lbs.) of cargoes.

Tableau XXVII—Relevé du trafic sur le canal TRENT en 1921

Tons — Tonnes		Total Tons — Tonnage total	Compared with 1920 — Comparé avec 1920		Origin of Cargo — Origine de la cargaisoa		Nomenclature
Up — En moatant	Down — Ea descendant		Increase — Augmeatation	Decrease — Diminutioa	Canadian — Canada	United States — Etats-Unis	
			Tons — Tonnes	Tons — Tonnes			
64,018	59,745	123,763	–	3,065	–	–	Navires canadiens, à vapeur.
16,868	12,239	29,107	–	4,649	–	–	Navires canadiens, à voiles.
158	87	245	108	–	–	–	Navires des Etats-Unis, à vapeur.
–	–	–	–	–	–	–	Navires des Etats-Uais, à voiles.
81,044	72,071	153,115	–	7,606	–	–	Total.
52,352	47,697	100,049	2,200	–	–	–	Passagers, nombre.
							Produits agricoles—
–	–	–	–	12	–	–	Orge.
50	–	50	44	–	50	–	Sarrasin.
–	–	–	–	–	–	–	Maïs.
12	68	80	67	–	80	–	Avoine.
–	–	–	–	–	–	–	Seigle.
–	–	–	–	–	–	–	Lin.
3	50	53	48	–	53	–	Pois.
1,192	–	1,192	–	464	1,192	–	Blé.
4	9	13	–	4	13	–	Farine.
11	–	11	3	–	11	–	Foin.
14	9	23	–	15	23	–	Autres produits de meunerie.
6	–	6	–	50	6	–	Fruits et légumes.
32	4	36	–	52	36	–	Pommes de terre.
1,324	140	1,464	–	435	1,464	–	Total.
							Produits des animaux—
124	2	126	–	24	126	–	Aaimaux vivants.
–	–	–	–	–	–	–	Volaille, gibier et poisson.
–	–	–	–	–	–	–	Viande abattue.
–	–	–	–	–	–	–	Autres produits des fabricants de conserves.
–	–	–	–	–	–	–	Peaux et cuir.
–	–	–	–	–	–	–	Laine.
18	21	39	13	–	39	–	Tous autres produits des animaux.
142	23	165	–	11	165	–	Total.
							Manufactures—
16	7	23	–	63	23	–	Instruments aratoires.
111	188	299	226	–	299	–	Cimeat, briques, chaux.
35	78	113	47	–	113	–	Meubles et objets mobiliers.
14	10	24	14	–	24	–	Fer en gueuse et ea saumon.
45	15	60	60	–	60	–	Tous autres fer et acier.
72	2	74	44	–	74	–	Pétrole et autres huiles.
1	–	1	–	–	1	–	Sucre.
–	–	–	–	3	–	–	Sel.
3	–	3	–	16	3	–	Vins, liqueurs et bières.
918	682	1,600	–	46	1,600	–	Marchandises noa énumérées.
1,215	982	2,197	263	–	2,197	–	Total.
							Produits forestiers—
2	15,800	15,802	8,342	–	15,802	–	Bois à pulpe.
939	2,528	3,467	–	5,930	3,467	–	Bois de construction scié.
2,961	67	3,028	–	1,059	3,028	–	Bois équarri.
26	204	230	182	–	230	–	Bardeaux.
7,563	9,765	17,328	–	11,116	17,328	–	Autres bois.
11,491	28,364	39,855	–	9,611	39,855	–	Total.
							Produits miniers—
63	31	94	30	–	–	94	Houille anthracite.
28	72	100	12	–	30	70	Houille bitumineuse.
–	–	–	–	–	–	–	Coke.
–	–	–	–	–	–	–	Minerai de cuivre.
–	–	–	–	1	–	–	Minerai de fer.
–	–	–	–	–	–	–	Autres minerais.
179	193	372	340	–	372	–	Sable, etc.
270	296	566	381	–	402	164	Total.
14,442	29,805	44,247	–	9,413	44,083	164	Grand total.

Tonnage net, enregistré, des aavires. Tonnes (2,000 liv.) des cargaisons.

Table XXVIII—Statement of Traffic on the ST. ANDREW'S Canal during 1921

Commodities — Nomenclature	Total Number — Nombre total	From Canadian to Canadian Ports — De ports canadiens à ports canadiens		Tons — Tonnes		Total Tons — Tonnage total	Compared with 1920 — Comparé avec 1920		Origin of Cargo — Origine de la cargaison
							Increase — Augmentation	Decrease — Diminution	
	Up	Down — En montant	Up — En descendant	Down — En montant	— En descendant		Tons — Tonnes	Tons — Tonnes	Canada — Canada
Canadian Vessels—Steam—Navires canadiens, à vapeur	76	9,099	9,595	9,099	9,595	18,694	8,417	–	–
Canadian Vessels—Sail—Navires canadiens, à voiles	458	4,454	4,366	4,454	4,366	8,820	–	7,270	–
United States Vessels—Steam—Navires des Etats-Unis, à vapeur	–	–	–	–	–	–	–	–	–
United States Vessels—Sail—Navires des Etats-Unis, à voiles	–	–	–	–	–	–	–	–	–
Total	534	13,553	13,961	13,553	13,961	27,514	1,147	–	–
Passengers—Number—Passagers—Nombre	–	3,730	3,472	3,730	3,472	7,202	2,271	–	–
Agricultural Products—Produits agricoles—									
Barley—Orge	–	–	–	–	–	–	–	–	–
Buckwheat—Sarrasin	–	–	–	–	–	–	–	–	–
Corn—Maïs	–	–	–	–	–	–	–	–	–
Oats—Avoine	–	–	–	–	–	–	–	51	–
Rye—Seigle	–	–	–	–	–	–	–	–	–
Flax—Lin	–	–	–	–	–	–	–	–	–
Peas—Pois	–	–	–	–	–	–	–	–	–
Wheat—Blé	–	–	–	–	–	–	–	–	–
Flour—Farine	–	–	–	–	–	–	–	–	–
Hay—Foin	–	–	–	–	–	–	–	50	–
Other mill products—Autres produits de meunerie	–	–	–	–	–	–	–	–	–
Fruits and vegetables—Fruits et légumes	–	2	–	2	–	2	2	–	2
Potatoes—Pommes de terre	–	–	–	–	–	–	–	–	–
Total	–	2	–	2	–	2	–	99	2
Animal Products—Produits des animaux—									
Live stock—Animaux vivants	–	–	1	–	1	1	1	–	1
Poultry, game and fish—Volaille, gibier et poisson	–	–	–	–	–	–	–	–	–
Dressed meats—Viande abattue	–	–	–	–	–	–	–	–	–
Other packing house products—Autres produits des fabricants de conserves	–	–	–	–	–	–	–	–	–
Hides and leather—Peaux et cuir	–	–	–	–	–	–	–	–	–
Wool—Laine	–	–	–	–	–	–	–	–	–
Animal products, all other—Tous autres produits des animaux	–	–	–	–	–	–	–	–	–
Total	–	–	1	–	1	1	1	–	1
Manufactures—									
Agricultural implements—Instruments aratoires	–	125	11	125	11	136	126	–	136
Cement, bricks, lime—Ciment, briques, chaux	–	–	–	–	–	–	–	8	–
Household goods and furniture—Meubles et objets mobiliers	–	–	–	–	–	–	–	10	–
Iron—Pig and bloom—Fer en gueuse et en saumon	–	2	–	2	–	2	2	–	2
Iron and steel, all other—Tous autres fer et acier	–	–	–	–	–	–	–	–	–
Petroleum and other oils—Pétrole et autres huiles	–	–	–	–	–	–	–	–	–
Sugar—Sucre	–	–	–	–	–	–	–	–	–
Salt—Sel	–	–	–	–	–	–	–	–	–
Wines, liquors and beers—Vins, liqueurs et bières	–	–	–	–	–	–	–	–	–
Merchandise—Not enumerated—Marchandises non énumérées	–	–	317	–	317	317	215	–	317
Total	–	127	328	127	328	455	325	–	455

Tableau XXVIII—Relevé du trafic sur le canal ST-ANDRÉ en 1921

Commodities — Nomenclature	Total Number — Nombre total	From Canadian to Canadian Ports — De ports canadiens à ports canadiens		Tons — Tonnes		Total Tons — Tonnage total	Compared with 1920 — Comparé avec 1920		Origin of Cargo — Origine de la cargaison
		Up — En montant	Down — En descendant	Up — En montant	Down — En descendant		Increase — Augmentation Tons — Tonnes	Decrease — Diminution Tons — Tonnes	Canada — Canada
Products of Forests—Produits forestiers—									
Sawed lumber—Bois de construction scié	–	2,950	–	2,950	–	2,950	1,169	–	2,950
Squared timber—Bois équarri	–	–	–	–	–	–	–	–	–
Shingles—Bardeaux	–	–	8	–	8	8	8	–	8
Other woods—Autres bois	–	2,770	2	2,770	2	2,772	–	721	2,772
Total	–	5,720	10	5,720	10	5,730	456	–	5,730
Products of mines—Produits miniers—									
Hard coal—Houille anthracite	–	–	–	–	–	–	–	95	–
Soft coal—Houille bitumineuse	–	–	–	–	–	–	–	–	–
Coke	–	–	–	–	–	–	–	–	–
Copper ore—Minerai de cuivre	–	–	–	–	–	–	–	–	–
Iron ore—Minerai de fer	–	–	–	–	–	–	–	–	–
Other ore—Autres minerai	–	–	–	–	–	–	–	–	–
Sand, etc.—Sable, etc.	–	43	–	43	–	43	–	132	43
Total	–	43	–	43	–	43	–	227	43
Grand Total	534	5,892	339	5,892	339	6,231	456	–	6,231

Registered net tonnage of vessels. Tons (2,000 lbs.) of cargoes.
Tonnage net, enregistré, des navires. Tonnes (2,000 liv.) des cargaisons.

Table XXIX—Traffic on Canadian Canals
Tableau XXIX—Traffic sur les canaux canadiens

Year — Année	Canadian Vessels — Navires canadiens		United States Vessels — Navires des Etats-Unis		Freight Carried—Fret transporté				Total.
					Originating in Canada — Provenant du Canada		Originating in United States — Provenant Etats-Unis		
	No. — Nombre	Registered Tonnage — Tonnage enregistré	No. — Nombre	Registered Tonnage — Tonnage enregistré	Tons — Tonnes	Per cent of Total — Pourcentage du total	Tons — Tonnes	Per cent of Total — Pourcentage du total	Tons — Tonnes
1900	21,755	4,129,250	5,502	2,408,985	–	–	–	–	5,013,693
1901	20,860	3,980,264	5,634	2,482,274	–	–	–	–	5,665,259
1902	22,198	4,485,695	6,433	4,086,439	–	–	–	–	7,513,197
1903	23,767	5,212,832	6,695	4,236,475	–	–	–	–	9,203,81
1904	21,851	4,772,100	6,253	3,655,905	–	–	–	–	8,256,23
1905	23,726	5,191,191	7,085	5,096,241	–	–	–	–	9,371,744
1906	25,498	5,526,321	7,319	5,685,315	–	–	–	–	10,523,185
1907	28,833	6,328,911	9,328	11,604,834	–	–	–	–	20,543,639
1908	29,040	6,780,789	7,489	8,521,139	5,012,147	28·7	12,190,673	71·3	17,502,820
1909	22,507	7,811,578	9,996	16,459,322	7,378,057	21·8	26,342,691	78·2	33,720,748
1910	25,337	8,931,790	11,462	21,777,297	7,883,614	18·3	35,106,994	81·7	42,990,608
1911	25,585	9,172,192	10,370	18,231,622	7,792,907	20·5	30,237,446	79·5	38,030,353
1912	27,371	10,237,335	11,785	24,636,190	9,376,529	19·7	38,210,716	80·3	47,587,245
1913	28,654	12,078,041	10,739	24,238,788	11,130,875	21·3	40,923,038	78·7	52,053,913
1914	26,125	12,050,856	7,742	15,636,414	9,382,206	25·3	27,641,031	74·7	37,023,237
1915	21,575	9,398,207	6,415	7,385,101	6,789,423	44·7	8,409,380	55·3	15,198,803
1916	23,002	9,839,029	6,800	10,660,839	7,486,962	31·7	16,096,529	68·3	23,583,491
1917	21,588	9,831,694	6,594	10,259,772	5,964,369	26·8	16,274,566	73·2	22,238,935
1918	18,909	7,800,972	6,791	9,616,200	3,369,477	17·8	15,514,142	82·2	18,883,619
1919	20,682	8,735,973	4,092	5,259,173	4,865,831	48·7	5,129,435	51·3	9,995,266
1920	23,038	8,521,643	3,826	3,838,890	4,094,044	46·9	4,641,339	53·1	8,735,383
1921	25,720	10,079,388	2,969	2,330,178	4,562,028	48·5	4,844,993	51·5	9,407,021

St. Andrew's Canal opened for traffic in 1910. Origin of cargo not shown prior to 1908.—Le canal St-André fut ouvert au trafic en 1910. Aucune statistique d'origine n'apparait avant 1908.

Table XXX—Traffic through SAULT STE. MARIE Canals

Canadian Lock

Years — Année	Canadian Vessels — Navires canadiens		United States Vessels — Navires des Etats-Unis		Total No. — Nombre total	Vessel Tonnage — Tonnage total	Freight Tons — Tonnage des cargaisons		
	No. — Nombre	Tonnage — Tonnage	No. — Nombre	Tonnage — Tonnage			Canadian — Canadiennes	Percentage — Pourcentage	United States — Etats-Unis
1900	1,790	577,310	1,291	1,617,438	3,081	2,194,748	–	–	–
1901	2,796	775,151	1,408	1,674,597	4,204	2,449,748	–	–	–
1902	3,080	1,366,930	1,964	3,237,372	5,044	4,604,302	–	–	–
1903	2,711	1,615,939	1,640	3,146,807	4,351	4,762,746	–	–	–
1904	2,637	1,555,042	1,325	2,675,663	3,962	4,230,705	–	–	–
1905	3,970	1,803,288	1,692	2,734,349	5,662	5,537,637	–	–	–
1906	3,922	1,959,252	1,758	4,399,872	5,680	6,359,124	–	–	–
1907	3,217	2,154,688	3,132	9,961,281	6,349	12,115,969	–	–	–
1908	3,289	2,603,232	2,004	7,035,655	5,293	9,638,887	2,092,231	16·39	10,666,985
1909	2,597	2,988,936	3,734	14,850,738	6,331	17,839,674	3,366,495	12·08	24,494,750
1910	2,744	3,173,494	5,228	20,187,704	7,972	23,361,198	3,378,268	9·28	33,017,419
1911	2,713	3,108,880	4,068	16,252,340	6,781	19,361,220	3,177,581	10·27	27,774,128
1912	2,643	3,296,229	5,213	22,536,015	7,856	25,832,244	4,090,362	10·31	35,579,293
1913	3,279	3,793,434	5,006	22,181,007	8,285	25,974,441	4,954,734	11·60	37,744,590
1914	3,011	3,473,292	2,966	13,827,870	5,977	17,301,162	3,609,747	13·08	23,989,437
1915	3,000	3,041,003	1,331	5,443,812	4,331	8,484,815	2,561,734	33·05	5,189,223
1916	4,595	4,089,937	2,094	8,703,187	6,689	12,793,124	4,155,911	24·72	12,657,738
1917	3,199	3,182,960	2,138	8,712,604	5,337	11,895,564	2,875,590	18·62	12,571,502
1918	3,067	2,436,500	1,992	7,594,042	5,059	10,030,542	1,336,861	10·35	11,576,850
1919	3,140	2,817,096	929	3,671,634	4,069	6,488,730	1,606,311	38·82	2,531,774
1920	3,239	2,415,775	771	2,725,431	4,010	5,141,206	1,286,251	51·91	1,191,567
1921	3,464	2,676,320	399	1,115,072	3,863	3,791,392	1,483,444	74·26	514,148

Table XXXI—Traffic on the WELLAND Canal

Tableau XXXI—Trafic sur le canal WELLAND

Year — Année	Canadian Vessels — Navires canadiens		United States Vessels — Navires des Etats-Unis		Total No. — Nombre total	Vessel Tonnage — Tonnage des navires	Freight Carried—Fret transporté				
							Originating in Canada — Provenant du Canada-		Originating in United States — Provenant des Etats-Unis		Total
	No. — Nombre	Tonnage	No. — Nombre	Tonnage			Tons — Tonnes	Percent of Total — Pourcentage du total	Tons — Tonnes	Percent of Total — Pourcentage du total	Tons — Tonnes
1900	1,765	575,381	634	437,431	2,399	1,012,812	–	–	–	–	719,360
1901	1,101	413,597	446	391,983	1,547	805,580	–	–	–	–	620,209
1902	1,011	339,357	557	432,366	1,568	825,723	–	–	–	–	665,387
1903	955	465,296	832	571,700	1,787	1,036,996	–	–	–	–	1,002,919
1904	799	435,049	634	416,964	1,433	852,013	–	–	–	–	811,371
1905	768	479,389	827	622,106	1,595	1,101,495	–	–	–	–	1,092,050
1906	866	602,876	670	647,152	1,536	1,250,028	–	–	–	–	1,201,967
1907	1,127	753,713	855	830,000	1,982	1,583,713	–	–	–	–	1,614,132
1908	1,531	992,237	820	670,934	2,351	1,663,171	776,245	45·57	927,208	54·43	1,703,453
1909	1,724	1,185,974	709	677,884	2,433	1,863,858	1,050,241	51·84	975,710	48·16	2,025,951
1910	1,852	1,461,499	692	687,018	2,544	2,148,517	1,196,946	41·45	1,129,344	48·55	2,326,290
1911	1,664	1,541,548	816	755,631	2,480	2,297,179	1,296,480	51·09	1,241,149	48·91	2,537,629
1912	1,946	1,814,965	959	864,535	2,905	2,679,500	1,553,116	54·46	1,298,799	45·54	2,851,915
1913	2,411	2,376,778	818	787,752	3,229	3,164,530	2,093,406	58·63	1,477,308	41·37	3,570,714
1914	2,902	2,878,483	790	757,212	3,692	3,635,695	2,013,619	52·15	1,847,350	47·85	3,860,969
1915	2,126	2,032,348	796	822,847	2,922	2,855,195	1,426,256	46·59	1,634,756	53·41	3,061,012
1916	2,092	1,794,722	847	718,897	2,939	2,513,619	1,054,480	41·43	1,490,484	58·67	2,544,964
1917	2,554	2,284,873	697	491,388	3,251	2,776,261	981,914	39·43	1,508,628	60·57	2,490,542
1918	2,088	1,760,301	1,104	835,088	3,192	2,595,389	495,607	22·79	1,678,691	77·21	2,174,298
1919	2,314	1,924,419	869	691,595	3,213	2,616,014	1,079,087	49·71	1,091,692	50·29	2,170,779
1920	2,430	2,013,817	694	514,439	3,124	2,528,256	717,452	31·52	1,558,620	68·48	2,276,072
1921	3,038	2,761,228	732	568,143	3,770	3,329,371	1,036,410	33·69	2,040,012	66·31	3,076,422

Tableau XXX—Trafic par les canaux du SAULT STE-MARIE

Ecluse canadienne				Canadian and United States Locks—Ecluses canadienne et américaine				
		Lockages — Passages d'écluses	Days Open — Jours d'ouverture	Vessels — Navires		Freight — Fret	Percentage through Canadian Canal — Pourcentage par le canal canadien	Year — Année
Percentage — Pourcentage	Total — Total	No. — Nombre	No. — Nombre	No. — Nombre	Tonnage — Tonnage	Tons — Tonnes		
–	2,035,677	2,205	238	19,452	22,315,834	25,643,073	8	1900
–	2,820,394	2,910	246	20,041	24,626,976	28,403,065	10	1901
–	4,729,268	3,418	264	22,659	31,955,582	35,961,146	13	1902
–	5,511,868	3,242	256	18,596	27,736,444	34,674,437	16	1903
–	5,030,705	3,022	241	16,120	24,364,138	31,546,106	16	1904
–	5,473,406	4,031	255	21,679	36,617,699	44,270,680	12	1905
–	6,574,039	4,152	253	22,155	41,098,324	51,751,080	13	1906
–	15,588,165	4,596	238	20,437	44,087,974	58,217,214	27	1907
83·61	12,759,216	3,667	235	15,181	31,091,730	41,390,557	31	1908
87·92	27,861,245	5,046	240	19,204	46,751,717	57,895,149	48	1909
90·72	36,395,687	6,110	248	20,899	49,856,123	62,363,218	58	1910
89·73	39,951,709	6,802	236	18,673	41,653,488	53,477,216	58	1911
89·69	39,669,655	6,200	240	22,778	56,736,807	72,472,676	55	1912
88·40	42,699,324	6,266	246	23,795	57,989,710	79,718,344	54	1913
86·92	27,599,184	4,712	239	18,717	41,986,339	55,369,934	50	1914
66·95	7,750,957	4,374	248	21,233	56,399,147	71,290,304	11	1915
75·28	16,813,649	4,777	245	25,407	69,824,463	91,888,219	18	1916
81·38	15,447,092	4,142	237	22,885	65,307,233	89,813,898	17	1917
89·65	12,913,711	4,034	241	20,610	61,100,244	85,680,327	15	1918
61·18	4,138,085	3,174	247	17,587	50,092,721	68,235,668	6	1919
48·09	2,477,818	3,076	244	18,848	58,196,498	79,279,630	3	1920
25·74	1,997,592	3,066	251	12,824	32,187,795	48,254,116	4	1921

Table XXXII—Traffic on the ST. LAWRENCE Canals

Tableau XXXII—Trafic sur les canaux du ST-LAURENT

Year — Année	Canadian Vessels — Navires canadiens		United States Vessels — Navires des Etats-Unis		Total No. — Nombre total	Vessel Tonnage — Tonnage des navires	Freight Carried—Fret transporté				Total
							Originating in Canada — Provenant du Canada-		Originating in United States — Provenant des Etats-Unis		
	No. — Nombre	Tonnage	No. — Nombre	Tonnage			Tons — Tonnes	Percent of Total — Pourcentage du total	Tons — Tonnes	Percent of Total — Pourcentage du total	Tons — Tonnes
1900	8,737	2,033,206	921	105,151	9,658	2,138,357	–	–	–	–	1,309,066
1901	7,695	1,859,135	1,330	176,187	9,025	2,035,322	–	–	–	–	1,208,296
1902	7,416	1,690,532	984	151,025	8,400	1,841,557	–	–	–	–	1,093,133
1903	8,446	2,126,088	1,252	261,125	9,698	2,387,213	–	–	–	–	1,681,206
1904	7,532	1,858,385	1,146	278,864	8,678	2,137,249	–	–	–	–	1,427,316
1905	7,784	1,955,385	1,212	412,816	9,996	2,368,201	–	–	–	–	1,752,855
1906	8,213	2,019,579	1,258	298,118	9,471	2,317,697	–	–	–	–	1,636,117
1907	8,734	2,362,679	1,352	433,448	10,086	2,796,127	–	–	–	–	2,100,466
1908	6,598	2,184,280	1,427	516,267	8,025	2,700,547	1,261,651	62·79	747,451	37·21	2,009,102
1909	8,135	2,476,977	1,136	489,232	9,271	2,966,209	1,710,797	70·96	699,832	29·04	2,410,629
1910	8,834	2,910,395	1,392	482,144	10,226	3,392,539	1,973,441	71·48	787,311	28·52	2,760,752
1911	8,367	3,103,957	1,556	918,078	9,923	3,923,035	2,063,861	66·45	1,041,847	33·55	3,105,708
1912	9,201	3,496,502	1,805	846,333	11,006	4,342,835	2,340,143	67·30	1,137,045	32·70	3,477,188
1913	9,845	4,240,399	1,811	961,371	11,656	5,201,770	2,837,019	65·94	1,465,408	34·06	4,302,427
1914	8,982	4,505,235	1,263	776,490	10,245	5,281,725	2,738,649	62·36	1,652,844	37·64	4,391,493
1915	7,099	3,422,991	1,542	841,792	8,641	4,264,783	2,024,755	59·39	1,384,712	40·61	3,409,467
1916	6,647	3,129,072	1,678	1,016,367	8,325	4,145,439	1,581,195	46·95	1,786,869	53·05	3,368,064
1917	7,327	3,511,986	1,374	819,102	8,701	4,331,088	1,370,533	40·42	2,020,611	59·58	3,391,144
1918	5,687	2,839,918	1,610	970,107	7,297	3,810,025	890,940	29·39	2,140,194	70·61	3,031,134
1919	5,882	3,107,773	1,066	769,172	6,948	3,876,945	1,498,322	51·82	1,393,297	48·18	2,891,619
1920	6,145	3,233,029	813	442,250	6,958	3,675,279	1,285,272	41·89	1,782,690	58·11	3,067,962
1921	8,406	3,939,233	804	545,610	9,210	4,484,843	1,547,743	41·45	2,186,322	58·55	3,734,065

Table XXXIII—Traffic on the CHAMBLY Canals
Tableau XXXIII—Trafic sur les tronçons du canal CHAMBLY

Year — Année	Canadian Vessels — Navires canadiens		United States Vessels — Navires des Etats-Unis		Total No. — Nombre total	Vessel Tonnage — Tonnage des navires	Freight Carried—Fret transporté				
							Originating in Canada — Provenant du Canada		Originating in United States — Provenant des Etats-Unis		Total
	No. — Nombre	Tonnage	No. — Nombre	Tonnage			Tons — Tonnes	Percent of Total — Pourcentage du total	Tons — Tonnes	Percent of Total — Pourcentage du total	Tons — Tonnes
1900	664	87,580	2,177	213,175	2,841	300,755	–	–	–	–	348,561
1901	716	91,371	2,061	214,463	2,777	305,834	–	–	–	–	359,798
1902	1,267	141,083	2,524	246,368	3,791	387,451	–	–	–	–	379,442
1903	936	110,448	2,509	232,560	3,445	343,008	–	–	–	–	346,571
1904	795	101,937	2,680	261,029	3,475	362,966	–	–	–	–	448,187
1905	719	97,012	2,624	282,100	3,343	379,112	–	–	–	–	447,069
1906	801	99,313	3,089	305,411	3,890	404,724	–	–	–	–	498,939
1907	603	98,638	3,576	352,627	4,179	451,265	–	–	–	–	625,282
1908	685	74,213	2,909	280,730	3,594	354,943	379,674	75·44	123,602	24·56	503,276
1909	670	97,535	4,055	411,019	4,725	508,554	623,421	82·89	126,696	17·11	752,117
1910	619	97,797	3,600	369,449	4,219	467,246	525,700	78·54	143,599	21·46	669,299
1911	497	51,451	3,511	367,978	4,008	419,429	443,846	74·00	155,983	26·00	599,829
1912	486	45,550	3,319	344,435	3,705	389,985	447,702	72·40	170,713	27·60	618,415
1913	472	62,140	2,725	273,671	3,197	335,811	358,801	64·58	196,801	35·42	555,602
1914	346	52,736	2,348	241,672	2,694	294,408	308,091	70·82	128,814	29·48	436,905
1915	488	58,998	2,301	235,193	2,789	294,191	292,191	61·04	186,516	38·96	478,707
1916	508	64,064	1,811	186,298	2,319	250,362	257,181	64·46	141,796	35·54	398,977
1917	400	65,806	2,060	202,970	2,460	268,776	281,292	64·69	153,526	35·31	434,818
1918	571	86,402	1,726	177,320	2,297	263,722	262,556	71·12	106,630	28·88	369,186
1919	383	65,604	1,040	107,605	1,423	173,209	138,420	56·97	104,541	43·03	242,961
1920	500	77,666	1,295	134,978	1,795	212,644	228,022	70·09	97,300	29·91	325,322
1921	394	58,869	844	87,931	1,238	146,800	82,421	45·72	97,859	54·28	180,280

Table XXXIV—Traffic on ST. PETER'S Canal
Tableau XXXIV—Trafic sur le canal ST-PIERRE

Year — Année	Canadian Vessels — Navires canadiens		United States Vessels — Navires des Etats-Unis		Total No. — Nombre total	Vessel Tonnage — Tonnage des navires	Freight Carried—Fret transporté				
							Originating in Canada — Provenant du Canada		Originating in United States — Provenant des Etats-Unis		Total
	No. — Nombre	Tonnage	No. — Nombre	Tonnage			Tons — Tonnes	Percent of Total — Pourcentage du total	Tons — Tonnes	Percent of Total — Pourcentage du total	Tons — Tonnes
1900	1,621	115,316	7	467	1,628	115,783	–	–	–	–	73,813
1901	1,738	119,817	7	933	1,745	120,750	–	–	–	–	88,257
1902	1,664	113,975	7	871	1,671	114,846	–	–	–	–	73,538
1903	1,749	118,304	11	1,760	789	119,093	–	–	–	–	90,864
1904	1,647	99,479	7	1,020	1,654	100,499	–	–	–	–	73,416
1905	1,586	103,796	9	1,163	1,595	104,959	–	–	–	–	81,077
1906	1,416	94,240	2	477	1,418	94,717	–	–	–	–	76,327
1907	1,335	91,116	2	355	1,337	91,471	–	–	–	–	73,167
1908	1,380	95,560	–	–	1,380	95,560	72,015	100·00	–	–	72,015
1909	1,428	102,423	11	1,203	1,439	103,626	79,150	99·12	700	0·88	79·850
1910	1,466	106,242	4	811	1,470	107,053	85,722	99·73	229	0·27	85,951
1911	1,260	89,270	–	–	1,260	89,270	75,298	100·00	–	–	75,298
1912	1,205	88,519	8	626	1,213	89,145	74,509	99·60	300	0·40	74,809
1913	1,324	91,890	13	1,048	1,337	95,938	71,514	100·00	–	–	71,514
1914	1,192	80,252	8	413	1,200	80,665	54,164	99·97	16	0·03	54,180
1915	71	5,650	–	–	71	5,650	2,895	100·00	–	–	2,895
1916	133	9,201	–	–	133	9,201	9,629	100·00	–	–	9,629
1917	1,144	82,405	2	89	1,146	82,494	62,254	100·00	–	–	62,254
1918	1,067	68,741	4	546	1,071	69,287	59,716	100·00	–	–	59,716
1919	1,155	78,412	17	1,522	1,172	79,934	64,879	100·00	–	–	64,879
1920	1,194	82,908	8	524	1,202	83,432	61,373	100·00	–	–	61,373
1921	1,109	76,327	8	698	1,117	77,025	56,123	100·00	–	–	56,123

TAble XXXV—Traffic on the MURRAY Canal
Tableau XXXV—Trafic sur le canal MURRAY

Year — Année	Canadian Vessels — Navires canadiens		United States Vessesls — Navires des Etats-Unis		Total No. — Nombre total	Vessel Tonnage — Tonnage des navires	Freight Carried—Fret transporté				
							Originating in Canada — Provenant du Canada-		Originating in United States — Provenant des Etats-Unis		Total
	No. — Nombre	Tonnage	No. — Nombre	Tonnage			Tons — Tonnes	Percent of Total — Pourcentage du total	Tons — Tonnes	Percent of Total — Pourcentage du total	Tons — Tonnes
1900	705	210,983	40	2,196	745	213,179	–	–	–	–	19,067
1901	814	221,951	36	1,381	850	223,332	–	–	–	–	29,535
1902	793	222,965	37	1,032	830	223,997	–	–	–	–	35,178
1903	733	214,019	29	1,561	762	215,580	–	–	–	–	30,389
1904	706	215,529	62	5,776	768	221,305	–	–	–	–	28,439
1905	650	224,360	57	4,477	707	228,837	–	–	–	–	29,421
1906	750	233,780	11	392	761	234,172	–	–	–	–	27,727
1907	1,018	229,896	35	727	1,053	230,623	–	–	–	–	52,402
1908	927	204,247	71	3,034	998	207,281	12,595	48·63	13,306	51·37	25,901
1909	886	265,554	71	2,573	957	268,127	79,254	77·48	23,037	22·52	102,291
1910	1,210	378,037	68	1,413	1,308	379,450	170,680	95·92	7,261	4·08	177,941
1911	1,356	368,189	84	3,021	1,440	371,210	159,409	97·52	4,048	2·48	163,457
1912	1,010	386,302	75	2,761	1,085	389,063	167,520	98·49	2,561	1·51	170,081
1913	1,224	394,494	53	2,133	1,277	397,627	162,095	89·76	18,841	1·24	180,576
1914	914	210,747	57	2,889	971	213,636	80,946	96·47	2,961	3·53	83,907
1915	552	124,506	48	1,407	600	125,913	27,942	90·93	2,786	9·07	30,728
1916	649	108,260	30	1,025	679	109,285	45,085	96·58	1,595	3·42	46,680
1917	866	134,929	25	2,570	891	137,499	54,405	94·45	3,198	5·55	57,603
1918	438	114,573	15	1,146	453	115,719	43,901	98·14	834	1·86	44,735
1919	586	152,610	21	2,434	607	155,044	107,547	99·35	703	0·65	108,250
1920	751	142,812	33	812	784	143,624	134,707	98·88	1,528	1·12	136,235
1921	432	57,726	53	1,145	485	58,871	45,280	100·00	–	–	45,280

Table XXXVI—Traffic on the OTTAWA Canals
Tableau XXXVI—Trafic sur les canaux de l'OTTAWA

Year — Année	Canadian Vessels — Navires canadiens		United States Vessesls — Navires des Etats-Unis		Total No. — Nombre total	Vessel Tonnage — Tonnage des navires	Freight Carried—Fret transport				
							Originating in Cannda — Provenant du Canada-		Originating in United States — Provenant des Etats-Unis		Total
	No. — Nombre	Tonnage	No. — Nombre	Tonnage			Tons — Tonnes	Percent of Total — Pourcentage du total	Tons — Tonnes	Percent of Total — Pourcentage du total	Tons — Tonnes
1900	1,910	250,048	204	20,068	2,114	270,116	–	–	–	–	389,145
1901	1,662	241,981	159	15,577	1,821	257,558	–	–	–	–	445,862
1902	1,803	239,282	103	10,175	1,906	249,457	–	–	–	–	444,682
1903	1,965	253,905	129	12,559	2,094	266,464	–	–	–	–	436,473
1904	1,712	217,515	93	9,315	1,805	226,830	–	–	–	–	335,993
1905	1,834	226,439	318	31,458	2,152	257,897	–	–	–	–	390,771
1906	1,922	235,179	285	27,666	2,207	262,845	–	–	–	–	397,415
1907	1,801	246,790	233	22,455	2,034	269,245	–	–	–	–	336,850
1908	1,773	215,183	109	10,597	1,882	225,780	258,527	100·00	–	–	258,527
1909	1,935	365,984	246	24,619	2,181	390,603	331,104	98·27	5,835	1·73	336,939
1910	2,189	410,907	412	41,963	2,601	452,820	377,268	97·93	7,993	2·07	385,261
1911	2,109	377,925	304	30,536	2,413	408,461	312,269	97·56	7,802	2·44	320,071
1912	2,662	480,751	397	40,598	3,059	521,349	383,515	97·75	8,835	2·25	392,350
1913	2,647	497,649	291	29,718	2,938	527,367	358,465	98·09	6,973	1·91	365,438
1914	2,197	392,516	275	27,257	2,472	419,773	325,059	96·99	10,073	3·01	335,132
1915	1,649	297,434	391	39,464	2,040	336,898	267,406	98·18	4,964	1·82	272,370
1916	1,659	302,012	328	33,851	1,987	335,863	226,381	95·26	11,270	4·74	237,651
1917	1,514	293,997	282	29,085	1,696	323,082	200,953	93·53	13,882	6·47	214,835
1918	1,165	218,992	323	34,498	1,488	253,490	159,700	95·53	7,470	4·47	167,170
1919	1,642	286,089	148	15,019	1,790	301,108	215,178	98·50	3,260	1·50	218,438
1920	1,373	249,934	178	19,195	1,551	269,129	226,594	97·12	6,735	2·88	233,329
1921	1,706	229,469	101	11,130	1,807	240,599	168,278	97·97	3,491	2·03	171,769

Tableau XXXVII—Traffic on the RIDEAU Canals
Tableau XXXVII—Trafic sur le tronçons du canal RIDEAU

Year — Année	Canadian Vessels — Navires canadiens		United States Vessels — Navires des Etats-Unis		Total No. — Nombre total	Vessel Tonnage — Tonnage des navires	Freight Carried—Fret transporté: Originating in Canada — Provenant du Canada		Originating in United States — Provenant des Etats-Unis		Total
	No. — Nombre	Tonnage	No. — Nombre	Tonnage			Tons — Tonnes	Percent of Total — Pourcentage du total	Tons — Tonnes	Percent of Total — Pourcentage du total	Tons — Tonnes
1900	2,351	178,456	228	13,059	2,579	191,515	-	-	-	-	75,432
1901	2,327	157,096	187	7,153	2,514	164,249	-	-	-	-	56,376
1902	2,614	163,339	257	7,230	2,871	170,569	-	-	-	-	50,879
1903	3,673	160,205	293	9,374	3,966	169,579	-	-	-	-	61,120
1904	3,750	162,462	292	7,183	4,042	169,645	-	-	-	-	55,120
1905	4,374	178,804	341	7,755	4,715	186,559	-	-	-	-	59,864
1906	5,621	213,302	246	6,227	5,867	207,529	-	-	-	-	82,159
1907	6,213	184,055	143	3,941	6,356	187,996	-	-	-	-	82,369
1908	7,832	186,018	149	3,922	7,981	189,940	77,519	86·50	12,121	13·50	89,640
1909	2,202	154,267	34	2,054	2,236	156,321	77,643	84·61	14,131	15·39	91,774
1910	2,749	176,447	66	6,795	2,815	183,242	121,043	89·74	13,838	10·26	134,881
1911	3,031	222,562	31	3,038	3,062	225,600	159,738	92·75	12,489	7·25	172,227
1912	2,960	208,689	9	887	2,969	209,576	146,963	91·78	13,170	8·22	160,133
1913	2,798	200,898	22	2,088	2,820	202,986	157,746	92·13	13,477	7·87	171,223
1914	2,600	176,904	35	2,611	2,635	179,575	142,203	93·72	9,536	6·28	151,739
1915	2,070	144,787	6	586	2,076	145,373	114,358	94·68	6,423	5·32	120,781
1916	1,672	117,341	12	1,214	1,684	118,555	98,653	93·57	6,777	6·43	105,430
1917	1,504	105,666	16	1,964	1,520	107,630	81,330	96·19	3,219	3·81	84,549
1918	1,156	75,478	8	3,316	1,164	78,803	50,663	93·58	3,473	6·42	54,136
1919	1,833	122,576	2	192	1,835	122,768	99,371	95·97	4,168	4·03	103,539
1920	1,709	118,751	9	1,124	1,718	119,875	95,002	97·10	2,835	2·90	97,837
1921	1,441	99,832	2	204	1,443	100,036	92,015	96·85	2,997	3·15	95,012

Table XXXVIII—Traffic on the TRENT Canals
Tableau XXXVIII—Trafic sur les tronçons du canal de TRENT

Year — Année	Canadian Vessels — Navires canadiens		United States Vessels — Navires des Etats-Unis		Total No. — Nombre total	Vessel Tonnage — Tonnage des navires	Freight Carried—Fret transporté: Originating in Canada — Provenant du Canada		Originating in United States — Provenant des Etats-Unis		Total
	No. — Nombre	Tonnage	No. — Nombre	Tonnage			Tons — Tonnes	Percent of Total — Pourcentage du total	Tons — Tonnes	Percent of Total — Pourcentage du total	Tons — Tonnes
1900	2,212	100,970	-	-	2,212	100,970	-	-	-	-	43,572
1901	2,011	100,165	-	-	2,011	100,165	-	-	-	-	36,532
1902	2,550	154,232	-	-	2,550	154,232	-	-	-	-	41,690
1903	2,599	148,628	-	-	2,599	148,628	-	-	-	-	42,407
1904	2,273	126,702	14	91	2,287	126,793	-	-	-	-	45,689
1905	2,041	122,718	5	17	2,046	122,735	-	-	-	-	45,231
1906	1,987	80,800	-	-	1,987	80,800	-	-	-	-	28,495
1907	4,785	207,336	-	-	4,785	207,336	-	-	-	-	69,806
1908	5,025	225,819	-	-	5,025	225,819	81,690	100·00	-	-	81,690
1909	3,730	173,928	-	-	3,730	173,928	59,952	100·00	-	-	59,952
1910	3,442	172,085	-	-	3,442	172,085	46,263	100·00	-	-	46,263
1911	4,165	196,973	-	-	4,165	196,973	57,290	100·00	-	-	57,290
1912	3,998	208,855	-	-	3,998	208,855	77,150	100·00	-	-	77,150
1913	3,666	217,081	-	-	3,666	217,081	58,800	100·00	-	-	58,800
1914	3,647	174,647	-	-	3,647	174,647	67,715	100·00	-	-	67,715
1915	3,433	172,780	-	-	3,433	172,780	49,904	100·00	-	-	49,904
1916	3,495	165,486	-	-	3,495	165,486	45,009	100·00	-	-	45,099
1917	2,967	142,979	-	-	2,967	142,979	48,924	100·00	-	-	48,924
1918	3,540	171,996	9	137	3,549	172,133	64,893	100·00	-	-	64,893
1919	3,594	155,895	-	-	3,594	155,895	52,953	100·00	-	-	52,953
1920	5,543	160,584	25	137	5,568	160,721	53,596	99·88	64	·12	53,660
1921	5,196	152,870	26	245	5,222	153,115	44,083	99·63	164	·37	44,247

Table XXXIX—Traffic on ST. ANDREW'S Canal
Tableau XXXIX—Trafic sur le canal ST-ANDRÉ

Year — Année	Canadian Vessels — Navires canadiens		Freight Carried — Fret transporté
	No. — Nombre	Tonnage	Canadian — Canadien
1910	202	44,887	8,283
1911	423	111,437	47,135
1912	1,260	210,973	95,549
1913	988	199,278	81,295
1914	334	106,044	42,013
1915	1,087	97,710	21,982
1916	552	58,934	13,438
1917	113	26,093	7,174
1918	130	28,062	4,640
1919	123	25,499	3,763
1920	154	26,367	5,775
1921	534	27,514	6,231

This canal is used only by Canadian vessels.—Seuls les navires canadiens se servent de ce canal.

SEVENTEENTH REPORT

OF THE

BOARD OF RAILWAY COMMISSIONERS FOR CANADA

FOR THE YEAR ENDING DECEMBER 31

1921

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1922

THE BOARD OF RAILWAY COMMISSIONERS FOR CANADA

Hon. F. B. Carvell, K.C., *Chief Commissioner.*

S. J. McLean, M.A., LL.B., Ph. D., *Assistant Chief Commissioner.*

Hon. W. B. Nantel, K.C., LL.D., *Deputy Chief Commissioner.*

A. C. Boyce, K.C., *Commissioner.*

J. G. Rutherford, C.M.G., *Commissioner.*

C. Lawrence, *Commissioner.*

A. D. CARTWRIGHT,
Secretary.

CONTENTS

PAGE

Accidents and accident investigations 27

Applications to the Board, total number 3,455 26

Appeals from decisions of the Board 26

Engineering Department of the Board 27

Fire Inspection Department of the Board 29

Formal and informal matters 5

General decisions and rulings of the Board 8

Index to principal Judgments of the Board 261

Operating Department of the Board 27

Public sittings of the Board 5

Railway Grade Crossing Fund 6

Routine work of the Board 29

Record Department 30

Traffic Department of the Board 27

APPENDICES

PAGE

Appendix "A"—Principal Judgments of the Board for the year ending December 31, 1921 31
(For alphabetical index to judgments *see* page 261)

Appendix "B"—Report of the Assistant Chief Traffic Officer of the Board for the year ending December 31, 1921 161

Appendix "C"—Report of the Chief Engineer of the Board for the year ending December 31, 1921 172

Appendix "D"—Report of the Chief Operating Officer of the Board for the year ending December 31, 1921 177

Appendix "E"—Report of the Chief Fire Inspector of the Board for the year ending December 31, 1921 218

Appendix "F"—Cases Carried to the Supreme Court 225

Appendix "G"—General Orders and Circulars of the Board for the year ending December 31, 1921 228

REPORT

OF THE

BOARD OF RAILWAY COMMISSIONERS FOR CANADA

To the Governor in Council:

Pursuant to the provisions of section 31 of the Railway Act, 1919, the Board of Railway Commissioners for Canada has the honour to submit its Seventeenth Report for the year ending December 31, 1921.

Since the publication of the last report there have been no amendments made to the Railway Act.

PUBLIC SITTINGS OF THE BOARD

During the year covered by the period from January 1, 1921, to the December 31, 1921, the Board held 68 public sittings at which 421 applications were heard. The number of public sittings held in the various provinces were as follows:

Provinces	Number
Ontario	41
Quebec	5
Manitoba	4
Saskatchewan	4
Alberta	4
British Columbia	7
Nova Scotia	2
New Brunswick	1
Total	68

The applications include a great variety of matters falling within the jurisdiction of the Board under the Railway Act, varying from the complaint of a private individual to weightier matters of general public interest affecting the community as a whole.

FORMAL AND INFORMAL MATTERS

The number of informal matters dealt with by the Board. as distinguished from matters heard at public sittings, constitute a considerable percentage of the total applications and complaints dealt with by it, that is to say, of a total of 3,455 applications and complaints received and dealt with by the Board 88 per cent were disposed of without the necessity of such formal hearing. These informal complaints, dealt with and settled without the necessity of hearing, entail in many instances a considerable amount of inquiry and consideration on the part of the Board's officials, and cover a wide range of subjects, as, for example, a complaint of a more or less trivial nature to a matter of general public interest affecting the community as a whole, or involving the application of some general principle, regarding the railway rates.

RAILWAY GRADE CROSSING FUND

In accordance with the provisions of subsection (5) of section 262 of the Railway Act, 1919, provision was made that the sum of $200,000 each year, for ten consecutive years from the 1st day of April, 1919, was appropriated and set apart from the consolidated revenue fund for the purpose of aiding in the providing by actual construction work of protective safety, and conveniences for the public in respect of highway crossings of the railway at rail level, in existence on the said 1st day of April, the said sums to be placed to the credit of a special account to be known as "The Railway Grade Crossing Fund," to be applied by the Board, subject to certain limitations set out in the Act, solely towards the cost (not including that of maintenance and operation) of actual construction work for the purpose specified.

In dealing with such crossings, the Board issued, between the 1st day of April, 1909, and the 31st day of December, 1921, 471 orders, providing protection for 527 crossings as follows:—

By	Electric bells	262
"	Gates	115
"	Subways	54
"	Overhead bridges	25
"	Diversion of highways	35
"	Closing of streets	10
"	Removal of view obstructions	8
"	Shelter	1
"	Towers	3
"	Wig-wags	8
"	Bell and wig-wag	26
"	Diversion of highway and subway	1
"	Diversion highway and removal view obstruction	1
"	Bell and removal view obstruction	1

It will be seen by comparing the total number of crossings protected with the sixteenth annual report of the board, that the increase for the twelve months ending December 31, 1921, in the number of crossings protected, number 30, made up as follows:—

By	Gates	2
"	Subways	2
"	Bridges	1
"	Diversion highways	3
"	Closing of streets	3
"	Removal view obstructions	3
"	Wig-wag	3
"	Bell and wig-wag	20
"	Diversion highway and subway	1

NOTE.—Thirty crossings and 38 protections consequent on account of double bells and wig-wags at 4 crossings; double bell and wig-wag and removal view obstructions at 1 crossing; and 2 diversions closing 3 crossings.

It will be noted that under the new consolidated Railway Act provision is made that the total amount of money to be apportioned and directed and ordered by the Board to be payable from the annual appropriation, shall not in the case of any one crossing exceed twenty-five per cent of the cost of the actual construction work in providing such protection, and shall not in any such cases exceed the sum of $15,000, and that no such money shall in any one year be applied to more than six crossings on any one railway in any one municipality, or more than once in any one year to any one crossing.

Subsection (3) of section 262 of the consolidated Railway Act provides that in case any province contributes towards the said fund, the Board may apportion, direct and order payment out of the amount so contributed by such province, subject to any conditions and restrictions made and imposed by such province in respect of its contribution.

GENERAL ORDERS

The following is a brief summary of some of the matters dealt with under the Board's General Orders:—

Direction in the matter of the rate of exchange in connection with shipments of freight between points in Canada and points in the United States, that the railway companies subject to the Board's jurisdiction be permitted to publish and file tariffs effective January 22nd, 1921, showing *inter alia* the exchange surcharge on international shipments other than coal and coke, to be added to the total through charges including advanced charges payable to United States carriers when payable and collected in Canada, as set out in the order, and further directing that the companies make monthly returns to the Board showing the amount of surcharges collected.

Direction in the matter of the application of the Express Traffic Association of Canada, on behalf of the express companies subject to the Board's jurisdiction, for an increase of 40 per cent in the tolls at present in effect, that the changes in the tariffs of the express companies subject to the jurisdiction of the Board, as set forth in the judgment of the Chief Commissioner, dated February 2, 1921, which was made part of the Board's order, be authorized.

Direction authorizing the use of the Hart type of wooden packing for frogs, wing rails, guard rails, and switches on railways subject to the Board's jurisdiction.

Direction that the railway companies subject to the Board's jurisdiction adopt and put into force, not later than the 1st day of June, 1921, certain regulations regarding the inspection of railway steam boilers and other locomotive boilers, as set forth in detail in the Board's General Order No. 330.

Direction in the matter of exchange on passenger charges payable in respect to international traffic between Canada and the United States, providing a surcharge based on the full rate of exchange arrived at in accordance with the provisions of the Board's order may be added to the total through fares and charges as set out in section 6 of the order, and be collected in Canada on all passenger and baggage car traffic to United States destinations from points in Canada via the routes set out in the order, but subject to certain exemptions as therein provided.

Direction providing for the amendment of livestock valuations in the classification of household goods and settlers' effects as set out on page 100 of the Canadian Freight Classification No. 16, so as to agree with the provisions of section 1 of the Live Stock Bill of Lading, Schedule "A," approved by the Board's General Order No. 298.

Directions prescribing the form, size and style of the tariffs of telephone tolls to be charged by telephone companies and amending certain of the Board's orders to provide for the approval of the system of publication of long distance tolls, known as the "Standard Toll Rate Quoting System."

Direction providing that the Board's General Order No. 236 prescribing certain regulations for the protection of railway employees be amended by adding to paragraph 2 thereof a clause providing that in the case of the leading engine giving up the train short of the destination of the train, test of the brakes must be made to see that the same are operative from the engineer's valve to the engine remaining with the train.

Direction that paragraphs 6 and 9 of rule 99 of the Board's General Order No. 42 approving of a Uniform Code of Rules for Canadian Railways, be struck out and certain clauses, as set out in the order, substituted therefor making for better protection of trains.

Direction in connection with the question of charges for fixing car doors and loading charges in cases where box cars are supplied by a railway company in lieu of stock cars ordered by the shipper, by providing that the doors of the cars shall be fixed to the satisfaction of the shipper at the expense of the railway company having the line haul, and that where box cars are supplied by a railway company to

livestock shippers in lieu of stock cars the loading charge shall be based on the number of cars which would have been loaded had stock cars been supplied by the company.

Direction that all railway companies subject to the Board's jurisdiction interested in the coal movement in the three Prairie Provinces be required to reduce the rates on coal from mines in the provinces of Alberta and Saskatchewan to points in the provinces of Alberta, Saskatchewan, and Manitoba by 10 per cent, including coal actually billed out up to and including the 31st day of August, 1921.

Direction that the tracks of all railway companies subject to the jurisdiction of the Board, laid after the 1st day of January, 1922, be placed at certain minimum distances as therein set forth, and that any such tracks now laid which are rearranged after January 1, 1922, be placed in accordance with the minimum clearances provided in the order.

Direction amending section 1832 (dealing with the transportation of white or yellow phosphorus) of the Regulations for the Transportation of Explosives and Other Dangerous Articles by Freight, as authorized by the Board's General Order No. 204, dated August 11, 1917, be amended as therein set forth.

Direction that rule 9 of the Canadian Car Demurrage Rules as prescribed by the Board's General Order No. 201, dated August 1, 1917, be amended by striking out all the words after the word "released" and substituting provisions to the effect that the charge for the first day or fraction thereof of delay shall be $1; for the second day, $1; and for the third and each succeeding day or fraction thereof, $5.

Direction of the Board that there should be a general reduction in the tolls which were increased under its General Order No. 308, dated September 9, 1920, by providing that the railway companies under the Board's jurisdiction file tariffs effective December 1, 1921, providing for reductions in domestic freight rates within Canada, as set out in the order.

GENERAL DECISIONS AND RULINGS OF THE BOARD

Sumbitted herewith, epitomised, are some of the more important matters dealt with by the Board at its public sittings for the year ending December 31, 1921. The principal judgments of the Board will be found under appendix "A" to this report.

APPLICATION OF BELL TELEPHONE COMPANY FOR INCREASE IN TELEPHONE TOLLS

By its General Order No. 264, dated May 13, 1919, the Board, as an emergency measure, to meet the advances in operating costs, authorized temporary increases in the telephone tolls of the company, retaining control of the case so that the revision of the emergency tools might be considered later. The increased tolls for long distance service became effective under said Order No. 264, May 13, 1919; the increase for exchange service on July 1, 1919.

In support of the present application, the company alleged that the increases allowed under the said General Order No. 264 amount in fact only to 10 per cent instead of 20 per cent as applied for; that the cost of labour and materials had continued to advance rapidly since the issue of Order No. 264; and that as a result the increased rates allowed under that order were insufficient to meet the company's requirements.

The facts are fully set out in the reasons for judgment of Assistant Chief Commissioner McLean, dated April 1, 1921, concurred in by Deputy Chief Commissioner Nantel and Commissioner Boyce, Vol. 11, No. 2, Board's Judgments, at p. 35.

Summary of Judgment.—In disposing of this later application, the increase of material and wage costs, the company's various assets and resources, and its deal-

ings with reserves, depreciation, and replacements were also taken into consideration. It was found, upon the evidence submitted, that there was, on the basis of the projected year from May, 1920, to May, 1921, a deficit in the necessary revenue of some $2,100,000. Against this, the increased long distance charges were computed to give $969,033 and the service connection charge, $181,000; in round numbers, $1,150,000, which left approximately $1,000,000 to be obtained from the exchange service.

Treating the matter still as a temporary measure to meet an existing emergency situation, an increase of 10 per cent in the exchange service was allowed. (Owing to an error in computation as to the earnings of the company, it developed that an increase of 12 per cent in such rates was necessary to provide the required revenue. The amount therefore increased to 12 per cent by a later judgment and order.) The Board, as previously, to retain the conduct of the case. The company to continue filing monthly reports as at present, and such special further rates, if any, as from time to time may be called for by the Board.

The relationship of the Northern Electric Company with the Bell Company considered. The view expressed that, while the Board was given no supervisory power in regard to intercorporate relations, if, in its dealings with the Northern Electric, the prices to the Bell were enhanced, that would be a legitimate matter for consideration in the present application. It was not shown that the prices charged to the Bell by the Northern Electric were unreasonable. The installation of the measured rate service, referred to, not passed upon.

A monthly instead of a quarterly basis of payment allowed.

The discrimination between the Montreal and Toronto rates, complained against by the Montreal interests, dealt with, and, in consonance with the Board's uniform practice, namely, that the one discriminated against should have the advantage of being put on the lower basis, Montreal was given the Toronto rate.

The extension of what is known as the party-line system, with its advantages, discussed.

MUNICIPALITIES OF DUNDAS, HAMILTON, ROCKWOOD, ETOBICOKE, WAINFLEET, AND OTHERS AGAINST THE BELL TELEPHONE COMPANY OF CANADA

The rearranging of district rates was involved in the above applications. In the localities in question, two or more exchanges had inter-telephonic communication on a common rate. Ordinarily, in the case of a city or town, the area in which the telephone rate of the exchange is applicable is defined either by the municipal boundaries or by a certain defined mileage distance from the exchange.

The facts are fully set out in the judgment of Asst. Chief Commissioner McLean, dated April 26, 1921, concurred in by Chief Commissioner Carvell and Commissioner Boyce, Board's Judgments, Vol. 11, No. 4, p. 83.

Summary of judgment.—The Dundas complaint was against the proposed increase in rate between Dundas and Hamilton. The Hamilton business rate, at the time of the application, was $49.50, as compared with the Dundas rate of $27.50. The comparative residence rates were $33 and $22. There were 489 subscribers in Dundas as against 11,840 in Hamilton. Subscribers in Hamilton were given free connection with subscribers in Dundas. The Dundas subscriber had the option of paying the Dundas rate and the toll rate for messages between Dundas and Hamilton, or the Hamilton rate, which gave him free access to the telephones of both places.

The telephone company's proposal was that the exchanges should be separated, each doing business on its own exchange, the interchange business to be taken care of by means of long distance toll rates on a 10-cent basis. At the close of the hearing, the company offered to establish a two-number service between Hamilton and Dundas, at a charge of 5 cents.

The rearrangement proposed by the company was opposed on the ground that the arrangement between the two places was of very long duration, and that it would effect an increase in the revenues of the telephone company. For the company, it was urged that the bulk of the Hamilton subscribers did not want to connect with the bulk of the Dundas subscribers, and the bulk of the Dundas subscribers were in the same position; that if the Hamilton rate were applied generally, the Dundas subscribers generally would be called upon to pay a larger toll for the benefit of a small percentage of subscribers in both areas.

In the township of Etobicoke, there existed free interchange of service between Weston, Islington, and New Toronto. The company's proposal was that the free service be continued between New Toronto and Islington, but a toll charge be made for all calls from these exchanges to Weston and from Weston to these exchanges. The objection was that the result would be to increase the cost of the service and add to the revenues of the company. It was objected, further, that the proposed rearrangement was in violation of the understanding upon which the Bell Company was given permission to erect its poles in the municipality; that it was upon the strength of the existing service that the township refrained from establishing an independent municipal service of its own.

In the case of the township of Wainfleet, there was at the time of the application a district service for the exchanges at Welland, Ridgeville, Smithville, Wellandport, and Marshville. The company's proposal was to combine Ridgeville and Welland in one district, and leave the other three in another district.

The submission on the part of those opposing the application was that the subscribers had taken their telephones on the assumption that there was to be a free service between the different points. Each of the points had a local exchange. The contention was that there was such a community of interest that there was no justification for the subdivision proposed.

Rockwood had direct connection with Guelph. The service between these two points had been in existence for some ten or twelve years. Here, too, it was claimed that the Rockwood subscribers were obtained only upon the understanding that they would have free service with Guelph.

The village of Grimsby's application was concerned with a situation in the Vineland-Grimsby district. There was, at the time of the hearing, a free service between Beamsville, Vineland, Winona, and Grimsby. Under the new tariff, free service was provided for between Beamsville and Vineland and between Grimsby and Winona, with a 10-cent charge per message from Vineland to Grimsby and Winona and from Beamsville to Winona and Grimsby.

The company's contention was that the free service was of value to a comparatively small percentage of subscribers. Here, as in the other cases, those opposing the change laid stress on community of interest.

Former rulings of the Board and their application to the situation in the cases here summarized, referred to and discussed. These rulings, shortly stated, were in effect that the Board's control over telephone companies was a limited one; that it was a rate jurisdiction rather than a facility or service jurisdiction; that certain clauses of the Railway Act, specifically mentioned, only made applicable; that it was significant as tending to show it was not intended to give the Board jurisdiction to deal with the facilities telephone companies should be required to furnish that the section of the Act, commonly known as the facility clause, was expressly excepted.

Held, that the district rearrangements were within the scope of the company's powers, and that the Board was without jurisdiction to interfere, except where a question of discrimination was raised. The question of discrimination was not raised, and consequently the suspending orders which had been issued pending the hearing of the applications should be rescinding. Ordered accordingly.

APPLICATION OF THE DOMINION SUGAR COMPANY, WALLACEBURG, FOR A REDUCTION IN RATES ON SUGAR BEETS, IN CARLOADS, TO WALLACEBURG

The facts are fully set out in the reasons for judgment of Commissioner Boyce, October 25, 1921, concurred in by Chief Commissioner Carvell, Board's Judgments, Vol. 11, No. 16, p. 289.

Summary of Judgment.—Prior to the year 1913, comparatively low rates were in force with a view to stimulating the sugar beet industry in the section of Ontario in question, with the object of increasing the production of sugar beets and, ultimately, the output of sugar.

In 1913, a general mileage scale for the sugar beet commodity was adopted by the railways in this territory, but owing to the attitude of the railways, specific rates were continued as to various points. Where there was no specific rate, the mileage scale of 1913 was applied.

On July 9, 1920, the Railway Association of Canada applied for a general increase in freight rates. An increase of 40 per cent (later reduced to 35 per cent), operative in eastern territory, to become effective September 13, 1920, was allowed. The railways concerned in this application participated in the general increase.

After the application for the general increase referred to had been launched, the railways concerned here published tariffs on sugar beets on a mileage scale. Filing dates were all subsequent to July 9, 1920, so that the tariffs complained of were filed while the application for a general increase in rates was under consideration by the Board.

The result of the abandonment by the railways of the existing schedule of rates and the adoption of the mileage scale was a very considerable increase in rates at points where the specific rates had theretofore existed. These increases became effective almost contemporaneously with the general increase allowed by the Board. This meant that the railways concerned, by the changes in their tariffs, obtained substantial increases on this commodity over and above the general increase awarded by the Board. On the general rate increase, the question of these tariffs was not raised or referred to. Had the Board been seized of the fact that at the time the general increase was under consideration, these increases had been made, by the tariffs referred to, in the rates on sugar beets, that fact would have been taken into account in connection with the increase to be allowed on the commodity in question.

A comparison covering the years 1916 to 1920, both inclusive, and showing the increase in the volume of the sugar beet business, given, as well as a statement indicating the value of the beet crop and the average freight paid thereon for the years 1917 to 1920.

View expressed that a 35 per cent increase over and above the rates existing before the mileage scale increase was made in 1920, would be fair to the railways, and as much as the traffic should be justly called upon to bear. No objection was taken to mileage rates, provided they were brought down to a 35 per cent increase, as contemplated by the Board in the general rate application.

Held, therefore, that the tariffs in question should be changed and reduced to a scale which would give a schedule of rates not exceeding a 35 per cent increase.

The direction was that order should go requiring the railways involved to make effective November 1, 1921, the new schedule of rates which would give effect to the decision of the Board.

APPLICATION OF THE EXPRESS TRAFFIC ASSOCIATION OF CANADA FOR INCREASE IN TOLLS

The application was made on behalf of the American, the Canadian, the British American, the Central Canada, and the Dominion Express Companies. It

was alleged that the companies were operating at a loss, and that a flat increase in all existing express freight rates of 40 per cent was required to take care of the actual deficit, pay a small amount on the money actually invested, and leave something for reserve.

The application was heard at different points in the Dominion extending from coast to coast. The facts are set out fully in the judgment of Chief Commissioner Carvell, February 2, 1921, concurred in by Deputy Chief Commissioner Nantel. Board's Judgments, Vol. 10, No. 23, p. 504.

Summary of Judgment.—On September 1, 1919, express companies received a specific increase in their rates, amounting, they claim, to 22 per cent. In 1920, freight rates were increased 40 per cent east of Fort William and 35 per cent west thereof. The Dominion Express Company pays the Canadian Pacific Railway on the basis of one and one-half times the first-class freight rate for its goods of that class carried by the railway. This meant an increased amount the Dominion Express Company would have to pay the Canadian Pacific Railway. The Canadian Express Company pays the Grand Trunk Railway and other railways over which it operates 50 per cent of the gross earnings. The increased freight rate, therefore, in no way affected the balance sheet of that company. The Grand Trunk, however, was materially affected, as that company received no increase on the traffic which it carried for the express company.

Exhibits showing last year's business of the Dominion and the Canadian Express Company were filed, and are set out in the judgment. These showed deficits amounting, in the case of the Dominion Express Company, for the year 1920 of $1,609,414, and the Canadian Express Company, for the year ending December 31, 1921, of $177,249.

Exception was taken to the basis upon which the Dominion Express Company paid the Canadian Pacific Railway for carrying its traffic. The view was expressed that whatever the basis, it should be the same for all express companies doing business in Canada.

Claim was also made that any increases allowed should not be general, but should be applied to goods moving under the first-class and higher rates.

The question of cartage differential at non-cartage points considered. It was found that the results anticipated from the reduction provided for in the 1919 express rate judgment had not been produced. The cartage allowance under the former judgment therefore eliminated, and the conditions existing prior to September, 1919, restored.

Just and reasonable rates must be allowed by the Board. If, therefore, the sum of $40,000 taken away from one company by the elimination of its cartage differential, the amount must be made up from the remainder of the traffic, and that it was fairer and more in the interests of the business as a whole that all users of express companies should pay the same rate, so that the Board could reduce the percentage of increases required to provide the necessary funds to enable express companies to carry on.

On account of the service afforded, express rates should be considerably higher than freight rates. Just what the proportion should be, not determined, but the view expressed it should be based upon a multiple of the standard first-class freight rate. Discrepancies in handling of certain commodities, fruit, for example, shown to exist. Express companies should so arrange their tariffs that all sections of the Dominion be treated as nearly alike as it is possible to do, considering the character of the business and the distance travelled. All alcoholic liquors advanced from second-class to first-class rates.

A flat increase of 30 per cent allowed.

MARCONI WIRELESS TELEPHONE COMPANY v. THE WESTERN UNION AND THE GREAT NORTH WESTERN TELEGRAPH COMPANIES

The complaint was against increased rates proposed to be charged by the telegraph companies, and the refusal of the Western Union Company to accept all traffic at its Canadian offices routed for transmission to the United Kingdom via Marconi.

Objection was taken by the respondent companies that the Board was without jurisdiction to entertain the application.

The facts are set out at length in the judgment of Assistant Chief Commissioner McLean, December 28, 1920, concurred in by Chief Commissioner Carvell and Commissioner Rutherford, Board's Judgments, Vol. 10, No. 21, at p. 449.

Judgment Summarized.—The regulative power of the Board over railways is wider than that it may exercise over other types of utilities. Various sections of the Railway Act are specifically excepted in the case of the Board's jurisdiction as to telegraphs and telephones. The toll and tariff clauses, and including therefore the provisions for joint tariffs covering continuous routes, not excepted, and consequently applicable to telegraph and telephone companies within the legislative authority of the Parliament of Canada.

"Telegraph", under the interpretation clause of the Railway Act, is defined to include wireless telegraph. A distinction is drawn between the powers of the Board over joint arrangements between telephone systems, Dominion and provincial, and telegraph companies.

Transoceanic telegraph systems have no status under the Railway Act which enables them to invoke the joint tariff sections of the Act.

Section 376, under which the Board might entertain an application by the Wireless Company, does not, by express provision, come into force until a similar clause has been made by the proper authority of the United Kingdom, and upon proclamation by the Governor in Council. The section has not yet become operative.

Held, that until it does, transoceanic wireless telegraph systems are in the same position as cable companies, and cannot invoke the joint tariff sections of the Act.

COMPLAINT OF TORONTO BOARD OF TRADE AGAINST CARTAGE TARIFFS OF RAILWAY COMPANIES, EFFECTIVE SEPTEMBER 1, 1919

The facts are set out in the reasons for judgment of Assistant Chief Commissioner McLean, December 27, 1920, concurred in by Chief Commissioner Carvell.

Summary of Judgment.—The Board has held that the charge for cartage was one falling within the definition of "toll" as defined in the interpretation clause of the Railway Act, and that it was not a railway service or facility within the meaning of the Act as it existed prior to the revision in 1919.

Subclause (*e*), subsection 1, of section 312 of the 1919 Act is new, and reads as follows:—

> "(*e*) furnish such other service incidental to transportation as is customary or usual in connection with the business of a railway company, as may be ordered by the Board".

The question arose whether the effect of this amendment was to include cartage as a service incidental to transportation usual in connection with the business of a railway company, so as to give the Board jurisdiction to order it as a facility to be continued. The reasons for the amendment and what it was designed to accomplish were very fully discussed in the judgment. The conclusion arrived at was that the clause was intended to apply to such privileges as milling in transit, stop-over for completion of loads, stop-over to dress lumber, and other arrangements of the same kind, that it was not intended to cover, and did not apply to, the cartage service, and the Board so held.

APPLICATION OF THE BRITISH COLUMBIA TELEPHONE CO. UNDER SECTION 375 OF THE RAILWAY ACT, 1919, FOR AN INCREASE IN EXCHANGE, RENTALS, AND CHARGES FOR SERVICE.

The facts are fully set out in the reasons for judgment of Chief Commissioner Carvell, dated July 23, 1921, concurred in by Commissioner Boyce. (Board's Judgments, Vol. 11, No. 10, p. 216).

Summary of Judgment.—The application involved an increase in rates amounting to about 15 per cent, except in the Kootenay District, as the rates in that district had been somewhat higher than in other exchanges, and also because it had no connection with the main system at the Coast and on Vancouver island. The only increase asked for the Kootenay District was for connection charges and placing new telephones and apparatus.

Very complete statements showing the value of plant in 1918 and additions since that date down to November 31, 1920. The value in 1918 was $6,868,208, and in 1920 the value had increased to $9,178,963. The correctness of these valuations not attacked. Admitted also that the service rendered was excellent.

Considerable argument took place over the outstanding stock of the company, especially as to the money actually paid for the ordinary shares. History of the formation of the company, its financial development, showing the stock originally issued in 1905 and later increased issue in 1911, and the application and disposition of the monies set out at length and considered.

In 1916 a federal charter was obtained, and regardless, therefore, of the method of book-keeping or the amount of reserve put back into the plant up to that time, the value of the plant was established by that Act, and from that date the rates have been under the control of the Board.

A statement filed at the time of the application showed a deficit of $397,469.83. Additional capital required for new equipment, etc., estimated at three million dollars. From the evidence submitted, 6.04 per cent annually found a reasonable amount to put aside as a reserve for depreciation, 16 years being the period or "cycle" within which the applicant company's plant would have to be replaced.

The rate allowed to be such as to provide for (1) operation, (2) maintenance, (3) depreciation, (4) interest, and (5) dividends, and in addition an amount to place the company in a position to secure further capital for necessary extensions.

After a close and careful analysis of the company's condition, based upon its earnings and operating costs, established by the evidence, it was estimated that an increase of slightly over 9½ per cent on the class of business mentioned in the application would meet these requirements. Ten per cent therefore allowed. The company to make monthly statements, and if upon examination at the expiration of six months the increase was found in excess, it could and would be corrected.

IN THE MATTER OF EXCHANGE ON PASSENGER CHARGES PAYABLE IN RESPECT OF INTERNATIONAL TRAFFIC BETWEEN CANADA AND THE UNITED STATES

The question of the exchange on passenger traffic was before the Board at the time it dealt with the surcharge on freight rates. Sufficient data to enable it to act was not before the Board at the time, and in accordance with its suggestion, a memorandum was filed on behalf of the Railway Association of Canada, setting forth the general conditions relating to international passenger travel and the effect on the revenues of railway companies by reason of the prevailing exchange situation.

A study of the passenger situation was made for the purpose of arriving at a scale of surcharges, to enable the Canadian carriers to make their settlement with United States connections in United States funds, and to prevent an undue advantage being taken in the exchange situation by persons purchasing in Canada tickets for use either wholly, or practically wholly, in the United States.

That there was a marked difference in the conditions applying to the carriage of freight as compared with passenger traffic, as there was no practical means of ensuring that a passenger ticket would be used only from the point at which it was purchased, or to destination point shown on it. Accordingly it was considered necessary to apply a surcharge equivalent to the full rate of exchange on tickets from Canadian border points to United States points; to make the surcharge equivalent to 75 per cent of the prevailing rate of exchange at points which would gain an undue advantage from a lower rate by reason of their proximity to the border; and to make the general basis of surcharge on all other tickets from Canadian to United States points equivalent to 50 per cent of the prevailing rate of exchange.

To carry out its suggestions, the association outlined a draft form of order. These suggestions considered at conferences between the Board and the railway companies' representatives. The Board was not satisfied that the suggested surcharges were required to place the companies in a position where they could accept prepayment through to destination for international traffic in Canadian funds, and yet be able to pay the American roads their share in American funds without loss.

Chief Commissioner Carvell, in his reasons for judgment dated March 5, 1921 (Board's Judgments, Vol. 10, No. 25, p. 555), which were concurred in by Assistant Chief Commissioner McLean, Deputy Chief Commissioner Nantel, and Commissioner Rutherford, points out that any passenger has the right of purchasing a ticket to the international boundary in Canadian funds, and purchasing the remainder to destination in American funds, and vice versa. The difficulty is a great proportion of the trains cross the boundary during the night, and tickets would be purchased at the boundary, therefore, at considerable inconvenience to passengers, if indeed there was sufficient time to do so.

The continuance of the joint through ticket was, in his opinion, a great advantage to the travelling public, and should be maintained if at all possible; that when an abnormal condition, such as the present one, arose, it was the duty of the Board, if possible, to devise means, even if there was no precedent, by which the best possible conditions might be maintained. In his view no practical surcharge scheme could be worked out excepting to a great extent on the principle of averages as applied in the case of freight rates on international traffic.

Further conferences were therefore had, and in view of the attitude of the Board a new proposal submitted by the railway companies dividing the country into three zones, not including the stations immediately on the border as a zone for this purpose, the rate of surcharge from the different zones being based to a considerable extent upon the distance of the main centres from the international boundary.

Dealing with this memorandum setting forth the new proposal, the Chief Commissioner concludes his judgment as follows:—

"It will thus be seen that the general principles of the application are as follows:—

"From all Canadian points immediately upon the boundary line, such as Rock Island, Cornwall, Prescott, Windsor, Sarnia, Emerson, Kingsgate, etc., to points in the United States, the surcharge will be 100 per cent of the rate of exchange, or the full American rate, the reason being that practically the whole journey is to be performed in the United States and should be paid for in American currency.

"2. At the next group, such as Montreal, Sherbrooke, Hamilton, Chatham, and Vancouver, which are a short distance away from the border, the surcharge will be 75 per cent of the rate of exchange.

"3. At a group still further away from the border, such as St. John, N.B., Ottawa, Toronto, London, Winnipeg, and Weyburn, the surcharge will be 50 per cent of the rate of exchange.

"4. From all other points the surcharge will be 25 per cent of the rate of exchange.

"5. And, lastly, upon all tickets sold from any Canadian point to stations in the United States immediately at, or in some instances near, the border no surcharge whatever is provided, because the traffic is practically all upon the Canadian roads."

As we considered this a matter of considerable importance to a certain percentage of the Canadian public inasmuch as, if this scheme were adopted, an increase upon the fares payable would come into effect, we thought it wise to have a public hearing which, accordingly, was held at Ottawa on Tuesday, the 2nd day of March instant. All the important Boards of Trade west of and including Fort William and Port Arthur were notified by wire of the proposed hearing, as was also the Board of Trade of Halifax; others were notified by letter. At the hearing the Boards of Trade of Toronto and Montreal alone were represented in the person of Mr. Tilston, although we received a communication from the Board of Trade of Halifax stating that they considered the proposal reasonable, but requested that we should use our influence to have a premium allowed on tickets purchased in the United States for Canadian points. Mr. Tilston agreed with the proposal, provided that the surcharge does not produce more money than is necessary to recoup the Canadian roads for what they will have to pay the American connections, taking in consideration the return fares.

The railway companies presented their side of the case, and furnished considerable data as to the practical results of working out the new scheme on the basis of a rate of exchange of 15 per cent. They gave a table showing the result of tickets purchased from Halifax, St. John, Montreal, Toronto, Hamilton, Niagara Falls, Windsor, Winnipeg, Moosejaw, Calgary, and Vancouver to practically all important centres in the United States, and it showed a loss varying from a few cents to $17, as in the case of a ticket from Toronto to San Francisco, in all cases excepting those of tickets from Niagara Falls and Windsor to American points, where the gain would be from 1 cent to 20 cents. This, of course, being because in this latter case the whole ticket must be purchased in American funds or its equivalent, and, as the Canadian road receives a very small amount for its share of the transaction, it necessarily would have a few cents profit upon it, but it is so small that it need not enter at all into the calculations.

They also filed statements showing the gross collections on international tickets with the proportion accruing to the United States lines, as follows:—

TICKET SALES TO UNITED STATES POINTS FOR YEAR 1919

Name of Road	Gross collections	To United States Lines	Percentage
G.T.R.	$2,383,463	$1,635,186	68·61
C.P.R.	5,546,000	3,875,000	69·87
C.N.R.	1,355,210	708,404	52·00
T.H. & B	293,534	306,913	70·5
C.V.R.	15,302	11,959	78·00
D.A.R.	164,000	104,960	64,00
Q.C.R.	100,000	60,000	60·00
	$9,857,509	$6,599,422	67·00

They were also able to show the Board a statement based upon tickets sold in January, April, August, and October, 1920, as follows:—

STATEMENT OF PASSENGER EARNINGS COVERING TICKETS SOLD IN CANADA TO UNITED STATES POINTS, BASED ON JANUARY, APRIL, AUGUST, AND OCTOBER, 1920

Name of Road	Total Passenger Sales	Proportion accruing to Canadian Lines	Percentage	Proportion accruing to U.S. Lines	Percentage
G.T.R.	$961,080	$277,588	29·0	$683,492	71·0
C. Nor. Ry.	116,905	63,514	55·0	53,391	45·0
C.G.Rys.	300,734	151,700	51·0	149,034	49·0
C.V.R.R.	21,925	4,343	20·0	17,582	80·0
M.C.R.R.	218,520	55,540	25·4	162,980	74·6
T.H. & B. Ry.	56,431	10,071	17·9	46,360	82·1
C.P.R.	2,631,960	1,041,877	39·6	1,590,083	60·4
Ruthland R.R.	25,113	3,387	13,0	21,725	87·0
Nap. Jet. Ry.	259,290	36,579	14·0	222,711	86·0
Mc. Cent. R.R.	2,677	949	35·5	1,728	64·5
Que. Cent. Ry.	47,123	15,763	33·5	31,360	66·5
N.Y.C.R.R.	56,992	17,343	30·0	39,649	70·0

The first statement shows that the average amount of this business accruing to the United States lines for the seven roads named therein is 67 per cent. The second statement shows a slightly different result, but averages up about the same. Both these statements show that the short roads near the border, such as the Toronto, Hamilton and Buffalo Railway and the Central Vermont, Rutland and New York Central Railways are hard hit by present conditions. perhaps the most outstanding case being the Toronto, Hamilton and Buffalo, which is a short road near the border and necessarily would only receive a small percentage from the proceeds of international business.

If the business from Canada to the United States as evidenced by these returns were the whole of the transaction, then it is very evident that the surcharge which they are asking would in no way place the railway companies in a position to carry on this business without a loss; but it must always be remembered that the passenger who purchases a ticket in the United States for Canada does so in American funds, and in the settlement between the different roads, the Canadian road receives its portion of this business in American funds.

It is very patent that, if on the outward business the American road receives on an average 67 per cent of the receipts, then assuming that the same number of persons travel from the United States to Canada or the reverse way, the Canadian roads would only receive 33 per cent of this portion of the business, thus leaving a difference of 34 per cent against the Canadian roads. We have, however, no knowledge to-day from actual experience or figures as to whether the surcharge herein proposed will exactly take care of this 34 per cent.

A concrete example of the working out of this scheme might be of assistance in understanding exactly what it means. Assuming that a passenger purchases a ticket in Canada to a point in the United States the charge for which is $10, and accepting the average division above given, the Canadian road would receive $3.30 and the American $6.70. Assuming the rate of exchange to be 12 per cent, the Canadian road would have to expend 80 cents in order to get the American portion to the American road, thus leaving it $2.50 as its portion of the transaction. Then assuming that the same passenger returns to Canada, purchasing a ticket in the United States in

American funds. On this the American road would pay the Canadian road $3.30, which, when converted into Canadian at the same rate of exchange, would give 40 cents additional, or a total of $3.70. The sum total of these two transactions would give the Canadian road $6.20 in Canadian funds, whereas it should have received $6.60, and it accordingly has a loss of 40 cents. Under the scheme herein proposed, if the Canadian road were allowed to collect on an average 34 per cent of the rate of exchange, it would amount to a surcharge of 4 per cent, and 4 per cent on the total amount of money collected by the Canadian road. viz., $10, would be 40 cents, which would exactly reimburse the Canadian road for the loss in the two transactions.

ILLUSTRATION OF ABOVE FARE PURCHASED IN CANADA TO UNITED STATES POINTS

Fare $10. Canadian portion $3.30; American portion..	$6.70
12 per cent of American portion..	0.80
Total amount paid United States Railway..	$7.50

$3.30—0.80=$2.50 amount retained by Canadian Railway.

SAME FARE PURCHASED IN UNITED STATES FOR CANADIAN POINT

	$7.50
Fare $10 in American funds; Canadian portion, $3.30; American portion..	$6.70
12 per cent on Canadian portion, exchange when forwarded in Canadian funds..	0.40
Amount received by Canadian railway..	$3.70

$2.50+$3.70=$6.20, amount received by Canadian railway both ways, or 40 cents less than Canadian railway should receive.
34 per cent of rate of exchange as above=surcharge of 4 per cent.
4 per cent of $10=$0.40, or the exact loss as above.

It must also be remembered that passenger traffic is different from freight traffic in that the passenger can move about as he pleases and can if he chooses in the future as well as in the past purchase his ticket to the border in Canadian funds. Also, if a man at any point in Western Canada wishes to visit Boston or New York, or even Chicago, he can always purchase a ticket to Winnipeg, Toronto, or Montreal, or even to Buffalo, and like points on the International boundary, and check his baggage thereto in Canadian funds, and he will have plenty of time between trains to repurchase from that point to destination, paying the surcharge only on that portion of the journey.

As the Canadian railways are losing heavily on the traffic under present conditions, I consider it the duty of this Board to make such provision as in its judgment will place them in a position to carry on this business, receiving their fair proportion in Canadian funds, and placing them in a position to pay the American portion in American funds, and while perhaps the railway companies' proposal is not perfect, yet, in my opinion and from some personal knowledge of the conditions of traffic between the two countries, I think the scheme last proposed will about place the Canadian railways in the position which I have hereinbefore described as the one to be desired, and therefore, I think that their proposal should be adopted, the railway companies to have the privilege of filing tariffs as therein stated effective 15th instant, the telegraphic notification of the rate of exchange to be forwarded to each agent on the 14th and last days of the month, to be posted in a conspicuous place in every passenger station in Canada of the roads over which this Board has jurisdiction. The railway companies should instruct their agents to point out to purchasers of tickets to United States points the right which they now and will hereafter possess of purchasing a ticket to the border point in Canadian funds, if they so desire, and should also post in large letters in a conspicuous place in each passenger station a statement to that effect.

The railway companies should furnish this Board with monthly statements showing positively the total receipts for international passenger traffic from each zone, with the surcharge received thereon, the portion accruing to the Canadian lines and that accruing to the American lines, and should also show in the monthly statement the receipts from American roads for traffic from the United States to Canada, divided in the same manner, in order that the Board may satisfy itself as to whether or not any changes are necessary, and if the same be found necessary, then this Board should without delay so adjust the zones and surcharges, or both, as to bring about as nearly as possible the desired results as hereinbefore set forth.

ASSISTANT CHIEF COMMISSIONER MCLEAN:

In agreeing in the reasons for judgment of the Chief Commissioner I desire to emphasize that what the Board is sanctioning is not an increase in rates.

Under their tariffs and division sheets Canadian railways are legally entitled on international passenger traffic to certain sums in Canadian money. These they have not been receiving. Owing to the adverse rate of exchange Canadian railways have in settling with the American connections, to settle in American funds. In order to so settle it has been necessary for the Canadian railways to absorb the exchange on the American portion of the rate. This has been due to the fact that the rate has been collected in Canada in Canadian funds. The result of this has been that the exchange, so absorbed, has had to be deducted from the division accruing under the tariff to the Canadian railway. That is to say, its division in Canadian funds, to which it is legally entitled, has been correspondingly reduced.

What is involved in the application before the Board is an attempt—necessarily dealt with on an average basis—to ensure that the Canadian railway will receive the amount to which it is legally entitled. The adverse rate of exchange is a factor of cost which is not provided for in the rate. While it has hitherto been absorbed by the Canadian railways, the continuance of this condition does not appear either fair or reasonable. For if the through rate, and the division thereof, is reasonable, then the Canadian railway should receive its division without any deduction therefrom of exchange. This and nothing more is involved in the disposition recommended.

JUDGMENT OF COMMISSIONER BOYCE (dissenting), March 9, 1921:

I am unable to reconcile the proposals of the railways with any jurisdiction possessed by this Board. The conditions in respect of which relief is sought, onerous though it may be contended they may be to the Canadian railways, are not, in my opinion, within the power of this Board to ameliorate or remedy. Those conditions are economic conditions, operating in common, upon every branch of Canadian commerce, and in the view I take this Board has no more power to relieve the railways from the effect of the depreciated Canadian dollar in relation to the American dollar than to attempt to adjust the adverse balance of trade against Canada which causes such depreciation. To attempt to relieve railways, at the expense of the people, from the results of this adverse trade balance in its relation to the Canadian currency is, in my opinion (expressed with deference to contrary opinion), to usurp, in favour of the railways, as against Canadian passenger traffic upon the railways, a special authority which, from its nature, is not in conformity with any of the functions of this Board.

To quote the language of the Assistant Chief Commissioner of the Board, in a judgment dealing with the question of prepayment of freight (Judgments of Board, 1920, at p. 119), where the same question of monetary exchange was directly in issue—

> "The Board is a statutory tribunal and its powers are tied down to the scope of the matters falling within the Railway Act."

Mr. Flintoft, counsel for the Railway Association, admits that what is proposed has nothing to do with the rate, or the carriage of the passenger, in the following language, at page 2875 of the record:—

> "The tariff of the rates will remain exactly as it is to-day. This is really a collateral charge, not a charge for the carriage of passengers, and we simply desire to have a chance to enable us to pay the loss to the American connections."

Further, at page 2873, Mr. Flintoft said, in presenting the railways' case to the Board:—

"It is unlawful to increase the joint rate."

The Assistant Chief Commissioner in agreeing with the judgment of the Chief Commissioner, in the present case, says in his opening sentence:—

> "I desire to emphasize that what the Board is sanctioning is not an increase in rates."

Putting these quotations of the Assistant Chief Commissioner side by side with the statement of counsel for the railways at the hearing it is made quite clear that if what the Board is asked to sanction is not an increase in rates, there must be elsewhere in the Railway Act, than in sections limiting the scope of the Board's powers with respect to tolls and rates, some express authority to which the Board can "tie on" and which expressly confers upon us the power to make such an order as is now proposed, and which the majority of the Board has sanctioned, viz., an order that a "surcharge" based on the full rate of exchange (or 75 per cent, or 50 per cent, or 25 per cent thereof, according to specified localities or districts in Canada from whence the international traffic moves) "may be added to the total through fares and charges" (*a*) passage tickets; (*b*) sleeping car tickets; (*c*) parlour car tickets; (*d*) excess or other revenue baggage car traffic and special baggage cars; and (*e*) collections for transfer or special delivery of baggage in United States cities, "and collected in Canada, on all passenger and baggage car traffic to United States destinations, etc."

I can find no such authority in the Railway Act, and the judgments of the majority of the Board, with which I do not find myself in agreement, do not refer to any section or sections of the Act, or other authority, by which it is expressed, or from which it may be implied, that power is vested in the Board, without increasing the rate, to authorize the railways to collect more Canadian money in Canada, for the same railway service, from persons purchasing through international tickets, than is specified and authorized in the present tariffs of such tolls, which it is admitted, it would be illegal to increase. That is just what is involved. The tolls sanctioned by this Board to be collected by Canadian railways, under the powers contained in the Railway Act, are payable in Canadian currency. This Board has no power to order that these tolls be paid in foreign currency, or in the equivalent in Canadian money. Tender of Canadian currency, in Canada, would be a good discharge of tolls lawfully chargeable by Canadian railways, whether for through or local traffic, so sanctioned, and is so accepted to-day. I confess to be unable to understand the paradoxial nature of the proposal. I fear that he who pays the additional Canadian money for that same service will be less appreciative of the logic suggested.

If there be no increase in tolls or rates, why is more Canadian money required to satisfy it? Is there, in the Railway Act, any section from which this Board can assume authority to provide and direct that if a tariff requires payment of one Canadian dollar for a railway service the railways may collect $1.10—without increasing the rate—the extra 10 cents being authorized and collected not, it is said, as an increase in the rate, but under the name or disguise of a "surcharge"? No such authority, expressed or implied, is to be found in the Railway Act.

The reason for the contention that what is involved is "not an increase in rates" is not far to seek. The rates are international, and an increase in them of the precise nature and extent as that now decided upon under the guise of a "surcharge" would be beyond the jurisdiction of the Board. It is so admitted, in express and unequivocal terms, and is so decided in the following amongst other cases: C.N. Ry. v. G.T.R. and C.P.R., 10 C.R.C. 139; Elder-Dempster Steamships Co. v. G.T.R. and C.P.R., 10 C.R.C. 334; Davey v. Niagara, St. C. & T. Ry., 9 C.R.C. 493, 45 C.R.C. 277, 11 C.R.C. 109.

It would also have the effect, in particular cases, if not generally, of increasing the joint rate beyond the sum of the local rates, and the language of the present Assistant Chief Commissioner, in delivering the judgment of the Board *in re* Joint Freight and Passenger Rates, 10 C.R.C., at p. 349, is significant and of importance:—

> "It is, in my opinion, sufficient to say that the charging of a joint rate in excess of the sum of the locals is *prima facie* an unreasonable and discriminatory practice, and that the onus of disproof should in individual complaints be on the railway or railways concerned."

No onus was assumed and no evidence given by any of the railways concerned under this head.

It is clear from the judgment above (p. 347) that the through passenger rates of at least one railway here concerned are constructed in a general way upon the sum of the locals. Therefore any "surcharge" (if it were a toll) would either (*a*) increase the sum of the locals, or (*b*) increase the foreign rate—that is, that the Canadian railways would under the proposed order be authorized to charge and collect ("or surcharge") more money in Canada, to satisfy and discharge those rates.

And again, at p. 344, of the same case, the Assistant Chief Commissioner says:—

> "It is a fundamental proposition under the policy outlined by the Railway Act that when a rate, whether joint or whether limited to points situated on one line of railway alone, has come into force in conformity with the provisions of the Railway Act, it is the only legal rate in respect of the traffic mentioned and between the points mentioned. The policy is not limited to Canada alone. In 1906 the Interstate Commerce Commission, which has had to deal with the problem now before us, established the same position."

The present joint rates for international passenger traffic and services, conforming to the provisions of the Railway Act do constitute, respectively, "the only legal rate" in respect of that traffic and, in my opinion, cannot be increased (i.e., more money cannot be exacted to satisfy them in Canada) by a device of "surcharge" in avoidance and disregard of the fundamental principles attaching to them.

It is not difficult, therefore, to see why the proposals of the railways cannot be justified or supported as an application for a rate increase. It would be beyond the jurisdiction of the Board. To my mind the whole proposal is founded on a fiction of law. It ratifies, in my opinion, an evasion of the law, and involves a usurpation of authority repugnant to the letter and spirit of the law. It countenances an ingenious device or plan by which the Canadian railways are empowered under a disguise of "surcharge" to demand, collect, and receive more money for transportation and other railway services than is permitted by law. It countenances the doing indirectly, and by disguise, that which the law prohibits being done directly. It requires express statutory authority to justify it, and there is none.

The term "surcharge" was never explained. I do not know what in the circumstances to which it is here applied, it is capable of explanation. I can find no precedent for it in the records of this Board, except as regards freight rates, where it was introduced with the consent of the railways in the interest and for the benefit

of the public, to provide relief to the public from an intolerable burden placed upon it by the railways in refusing to accept prepayment of freight from Canada to the United States and compelling the shipper to pay the whole freight rate (Canadian and foreign) in American funds. That was an emergency measure, provided, perhaps unwisely, to meet and remedy a condition of things with which this Board found itself without jurisdiction to interfere (see Judgment of Board, 1920, p. 111). It was I felt, a dangerous precedent, which only its motive and effect could justify. There is no reason here for perpetuating or repeating it, or establishing it as a precedent. The application here is to impose an additional financial burden upon the Canadian traveller, as I think, unjustly and contrary to law. Conversely, in the case mentioned, it was, with consent of those affected by it, provided as a relief from a condition of things involving hardship and injustice against which the Board found itself without power to give redress. It can only be excused, or defended, but not justified, in that way.

"Surcharge" is not a term of the Railway Act. This Board is given no power to "surcharge" rates and I agree with the Assistant Chief Commissioner's dictum that "the Board is a statutory tribunal and its powers are tied down to the scope of the matters falling within the Railway Act." To "surcharge" rates, and not increase them, is a grotesque and specious anomaly.

The ordinary and literal meaning of the word "surcharge" is a "charge upon." And if it is a "charge upon" a rate, how can it be suggested that the rate upon which there is an additional charge is not increased. Where is the jurisdiction to authorize a "charge upon" any rate—particularly a joint rate.

The term "surcharge" is interpreted—

(*a*) "A pecuniary charge in excess of the usual or just amount; an additional or excessive pecuniary charge." (*Vide* The Oxford Dictionary.)

(*b*) "A charge or load above another (the authorized toll); excessive load or burden; a load greater than can well be borne." (*Vide* The Century Dictionary.)

(*c*) "To give too great a charge; to overload or overburden. A burden greater than the ordinary one, or greater than can well be borne; an excessive burden, load or charge." (*Vide* Funk & Wagnall's Dictionary.)

The term itself is contradictory of a legal charge. I repeat that, in my opinion, there is no power in this Board to impose it, and no evidence or circumstance to justify it. It violates in its meaning and effect, every canon and principle of rate making. To authorize it in this case, in the name of law, would, in my opinion, set at nought, the spirit and letter of the Railway Act, and tend to weaken or destroy the judicial functions committed to the Board by that Act.

The question as to the effect on railway freight rates of economic conditions in relation to depreciation of Canadian money in exchange for that of the United States was discussed by this Board in its judgment upon the application *re* prepayment of freight. Judgments, etc., of the Board (1920), pp. 111 *et seq.* The Chief Commissioner in his judgment at page 118 said:—

> "It is the railway company's business to transport these goods to destination at the rates which have been provided by law for the service, and therefore, if from the exigencies of exchange any money is to be made or lost upon the transportation of these goods, so long as the shipper is not asked to pay a greater rate than that provided by law, this gain or loss belongs to the railway company and not the shipper."

And in the same case, at page 119, the Assistant Chief Commissioner says:—

> "The fact that it is the exchange situation, which by its effect on international freight movements has created, and complicated, the existing state of facts is merely illustrative, and does not go to the root of the principle involved. The fact that the present state of facts may have resulted in adventi-

tious gain to one of the parties to the contract of carriage and adventitious loss to the other neither broaches nor modifies the principle. The discussion of the relative equities of the parties to the contract of carriage from the standpoint of participation in the gain on particular shipments, arising from the international exchange situation as affecting freight rates on International traffic, while illustrative of the effects of the state of facts concerned neither modifies nor broadens the principle. The principle is independent of the particular circumstances."

The remarks quoted are, I think, pertinent. The principle (not to be lost sight of) is that to be found in those sections of the Railway Act with respect to tolls and rates (admitted by counsel, as to these rates), which this Board cannot ignore and should not depart from, "the adventitious gain to one of the parties to the contract of carriage and adventitious loss to the other neither broadens nor modifies the principle." The adjustment of the monetary system between Canada and a foreign country is not one of the powers conferred upon the Board. To try to interfere with it would be to venture upon the experiment of meddling with national economics. I suggest that the Board has responsibilities in the administration of the Railway Act, heavy enough to engage its activities without venturing beyond the Act circumscribing its powers into the labyrinth of economic conditions, in the hopeless effort to adjust them equitably in the interests of all concerned.

Grotesque and unjust as these proposals are in themselves, they also involve discriminatory features, impossible to reconcile with the provisions of the Act which prohibit discriminatory treatment and require equality in rates. The Assistant Chief Commissioner, in his judgment says:—

"What is involved in the application before the Board is an attempt—necessarily dealt with on an average basis—to ensure that the Canadian railway will receive the amount to which it is legally entitled."

The amount to which the Canadian railway is legally entitled is the amount shown in dollars and cents in Canadian money in the joint or through tariffs of rates. If by reason of an adverse trade condition, the Canadian dollar is at a discount in the United States, so that when the Canadian railway sells a through ticket and remits the American railway the tolls collected by the Canadian railway for that portion of the through ticket which pertains to the American railway, the remittance is subject to the prevailing rate of exchange in force on the day of remittance, there is involved in the language of the Assistant Chief Commissioner, "an adventitious loss" to the Canadian railway, not on the toll or rate, but on a remittance by one railway to the other, just as there would accrue to the Canadian railway an adventitious gain by remittance to it in United States currency for the Canadian part of a through ticket sold in the United States. But the rate, as a rate, is not affected by the gain or loss involved. By economic conditions, affecting exchange of currency between Canada and the United States, foreign to railway rates, the Canadian railway receives on its remittances from the United States railways for Canadian portion of tickets there sold, more money than the joint rates authorize it to collect for the travel in Canada. But it is not "surcharged" upon the toll; the traveller does not pay it. It is no part of the rate. It is "an adventitious gain" foreign to the contract of carriage and incident only to the remittance from one railway to the other. The principles governing rates are the subject of statute and cannot without express authority of law be changed to meet or provide for any gain or loss in monetary exchange. The Assistant Chief Commissioner says:—

"The adverse rate of exchange is a factor of cost, which is not provided for in the rate."

If that be so, is there any authority for the proposition that a factor of cost, not provided for in the rate, can be provided for by this Board, by "surcharge" or otherwise than by an increase of the rate under the Railway Act? If it be a "factor of cost" it belongs to the rate, and should be included in the rate, definitely and exactly, according to the cost involved, in common with and in proportion to all the other factors entering into and making up the rate. If it be a "factor of cost" it could, and would, be capable of distribution in the rate, without involving discrimination or inequality, and the rate containing that factor would be built upon the principles of rate-making. But it is because it consists of adventitious, and fluctuating, gain or loss, not connected with the cost of transportation, but as an incident of a joint rate agreement between railways concerned, and so variable and unascertainable as to be incapable of being definitely ascertained as a "factor of cost," that it is impossible to include it in the rate without violating rate-making principles and, therefore, it is "adventitious gain or loss" incident to the joint rate wholly apart from the principle involved. It is a domestic affair—a matter of account adjustment between the railways upon the joint rate with which this Board has no right to interfere, for the same reasons that the Board held, in the case cited, that it had no power to interfere in the case of the enforcement by the Canadian railways of their regulation refusing to accept prepayment of freight—a measure which brought to the Canadian railways much adventitious gain by compelling payment of all shipments from Canada to the United States in American funds for the whole of the haul—Canadian and American. That was a measure adopted by the railways without any application to or authority of the Board, as regards through international freight traffic to protect themselves against the same adventitious loss which they now allege, but do not prove, they suffer in the adjustment of their passenger rates with American railways under their joint rate agreement. Yet, when application was made by shippers to cancel it, the Board held it had no jurisdiction to interfere. Because these are passenger rates, making it impracticable to refuse prepayment of the tolls, I see no reason why an attempt should be made to create a jurisdiction with respect to the latter when it is negatived as to the former. Supposing that when the remittance was made by the Canadian railway to the American railway, the Canadian dollar was at a premium, could the railways be called upon, by virtue of any power, under the Railway Act, to reduce their fares?

Another feature presented is that the "surcharge" is to be levied and exacted upon all international through traffic, moving from Canada to the United States, irrespective of whether the travel in Canada be long or short. This is what is termed an "average basis." I put an example of this to Mr. Flintoft at the hearing, p. 2865, instancing a characteristic journey from, say, Montreal, over the "Soo Line" to a point ten miles over the American border in Michigan.

> "Commissioner Boyce: It is so that if a man travels 10 miles beyond that border (the American border) he would be surcharged for his whole 600-mile trip in Canada, at 25 per cent rate of foreign exchange?"
>
> "Mr. Flintoft: Yes, sir. That is the way the tariff will read."

This would work out as follows: The railway would be authorized to exact from the traveller, on the fare for the whole journey of 610 miles, a percentage of the current rate of exchange, while only 10 miles of the journey would be in American territory, and the Canadian railway would pay exchange on remittance to the American railway of the fare for only that 10 miles, retaining, by authority of the Board, as "adventitious gain," the "surcharge" collected from the traveller on the 600 miles of Canadian travel. On the return journey, over the same route, on a ticket purchased in the United States, the American railway would collect the whole fare for 610 miles, in American money, retain the fare for the 10 miles of American travel, and remit the Canadian railway, in American funds, for the 600 mile journey in

Canada, thus making an 'adventitious gain" to the Canadian railway, of the exchange on 1,200 miles of Canadian travel, and paying exchange on but 10 miles of American travel.

The same examples can be extended, in the same way, to much larger journeys, e.g., Vancouver to any point in Michigan—say 10 miles from Detroit. Under the proposed "surcharge" plan the Canadian railway would be authorized, by this Board (if it could sell the ticket which it is authorized to sell) to levy on an unsuspecting and innocent traveller a surcharge for say 2,930 miles, and pay exchange on only 10 miles of American travel. And the same proportionate results would follow, if a ticket were purchased in the reverse direction. The Canadian railway would thereby make "an adventitious gain" in exchange on 5,840 miles of Canadian travel. This palpable injustice and discrimination it is sought to justify because in another case—where the distance travelled on the foreign railway was greater, the Canadian railway would suffer the "adventitious loss," and the gain in the one case might (or might not) balance the loss in the other. It would involve a solemn sanction by this Board of the practice of "robbing Peter to pay Paul." But, if a toll, it would be a flagrant violation of section 314 of the Act. If not a toll, it would be a discriminatory practice, and a departure from the tolls prescribed by the tariff, expressly forbidden by the Railway Act, and declared by section 430 to be a penal offence against that Act.

A similar result follows from the segregation of the country into districts—localities or areas—for the purpose of the imposition of the "surcharge," of varying percentage, according to the area, or zone prescribed, and shown on the plan filed at the hearing, also involving instances of violations of the discriminatory sections of the Act.

The provision that the purchaser shall have preserved to him the privilege of paying the local rates to border points is of no importance. He has, and always has had, that option. The mischief I apprehend is that a measure contrary to law is to be sanctioned, which purports to authorize the Canadain railways to "load" or "surcharge" tolls, for a purpose which is beyond the powers of the Board to deal with.

No evidence was submitted by the railways to support the proposal, beyond statements of traffic, from which it was argued that there appeared to be a loss on exchange. If the proposals were such as the Board ought to consider at all, they could only be supported by financial statements, which the railways I should think could easily have submitted (because the present exchange conditions have existed for a year or more), in support of their contentions as to the loss on exchange, showing the actual state of their accounts with American railways on the exchange situation, and showing clearly the adverse balance, if there was one, in respect of which they claimed relief. In the total absence of any such direct evidence, which it was only reasonable should be furnished, the whole proposal seems chimerical, based on estimates and illusions and involves the graver feature that it lacks the authority of law.

In my opinion, any remedy there may be against the effect of the economic conditions involved in the international exchange situation, common as they are to railways and every branch of international commerce, is for the railways to work out. They have it in their power, if there is (as to which we have no clear evidence) a heavier burden created than they feel they should bear, to adjust the burden without saddling it upon a long-suffering and already over-burdened public, which has had scant opportunity of opposing it. They can relieve themselves from any loss by compelling the traveller from Canada to pay his fare to the boundary. He now, and has always had, that option. That would involve the abandonment of the joint rates. If the retention of these rates is more profitable to the railways than

the possible "adventitious loss" involved by them, they will retain them. It evidently is or they would not have retained them during the long time these apparently unfavourable economic conditions have existed.

I observe that as the contemplated scheme is, as the Assistant Chief Commissioner says, necessarily worked out on a basis of averages, and that the Chief Commissioner, in his judgment, points out that an average of 34 per cent of the rate of exchange (or a 4 per cent "surcharge") would exactly reimburse the Canadian railways for the losses he estimates, the average percentage to be exacted if there be an equality, or near it, of travel, from points carrying the 75 per cent, 50 per cent and 25 per cent "surcharge" (I disregard the 100 per cent, as it is said, though there is no evidence of it, that the travel to which it applies would be a negative factor) would be 50 per cent of the rate of exchange—another, perhaps unimportant and indefinite feature of the unsoundness and unfairness of this chimerical proposal.

I would find, upon what is submitted, that there is not sufficient evidence in support of the application. I am of opinion that there is in law no authority or jurisdiction in the Board to entertain it, and it should be dismissed.

APPEALS FROM DECISIONS OF THE BOARD

For the year ending December 31, 1921, there were three appeals made to the Governor in Council, and no appeals to the Supreme Court of Canada, from the decisions of the Board.

With reference to the appeals to the Governor in Council, the first was an appeal of the city of Toronto against the Board's General Order No. 308, dated September 9, 1920, authorizing a general increase in freight rates effective September 1920, and the matter was referred back to the Board for reconsideration.

The second appeal was made by the city of Toronto against the judgment of the Board dated April 30, 1921, providing for certain increases in the rates of the Bell Telephone Company, but this appeal has not been prosecuted.

The third was an appeal by the Canadian Northern Quebec Railway from order of the Board No. 31312, dated July 26, 1920, relative to the crossing of the Pointe aux Trembles Terminal Railway at Pointe aux Trembles, Que. This appeal is still pending.

ORDERS, GENERAL ORDERS AND CIRCULARS

The total number of orders issued for the year ending December 31, 1921, was 1,454. The number of general circulars issued by the Board, directed to all railway companies subject to its jurisdiction, was five. The general orders as distinguished from other orders of the Board are those affecting all railway companies subject to its jurisdiction, and are twenty-six in number for the year.

A list of the general orders and circulars for the year ending December 31, 1921, will be found compiled under Appendix "G" to this report.

APPLICATIONS TO THE BOARD

The total number of applications, including informal complaints made to the Board, for the year ending December 31, 1921, was 3,455.

TRAFFIC DEPARTMENT OF THE BOARD

In the Traffic Department of the Board the number of tariffs received and filed for the year ending December 31, 1921, was as follows:—

Freight tariffs, including supplements	56,279
Passenger tariffs, including supplements	19,829
Express tariffs, including supplements	9,947
Telephone tariffs, including supplements	6,480
Sleeping and parlour car tariffs, including supplements	464
Telegraph tariffs and supplements	21
	93,020

The total number of tariffs filed from February 1, 1904, to December 31, 1921, was 1,037,767.

The details of the tariffs will be found under Appendix "B" to this report.

ENGINEERING DEPARTMENT OF THE BOARD

In the Engineering Department of the Board a large number of inspections were made covering the whole Dominion. These inspections for the year ending December 31, 1921, number 350, and cover inspections for the opening of a railway for the carriage of traffic, inspections of culverts, highway crossings, cattle guards road crossings, bridges, subways, and general inspections falling within the scope of the work of the Engineering Department.

Under Appendix "C" will be found a detailed report of the Chief Engineer.

OPERATING DEPARTMENT OF THE BOARD

Under the work of this department is included the inspection of locomotive boilers and their appurtenances, the inspection of safety appliances on cars and locomotives, the investigations into accidents causing personal injury or loss of life, the reporting on the locations of stations, matters of protection at highway crossings, and train and station service performed by the railway companies.

Under appendix "D" will be found a full and detailed report of the Chief Operating Officer of the department.

ACCIDENTS AND ACCIDENT INVESTIGATIONS

On reference to the report of the Board's Chief Operating Officer, it will be seen that accidents to the number of 1,821, covering 243 persons killed and 1,928 persons injured, were reported to the Board during the year ending December, 1921, as compared with 2,093 accidents reported for the year 1920, covering 254 persons killed and 2,330 persons injured.

It is gratifying to note that the year 1921 produced a total decrease of 11 in the number of persons killed, as compared with the year 1920, and a total decrease of 402 in the number of persons injured.

The figures given show:—

(1) Seventeen passengers killed for the year ending December, 1920, and 4 passengers killed for the year ending December, 1921, a decrease of 13; and the number of passengers injured was 379 in 1920, as compared with 240 in 1921, a decrease of 139.

(2) The number of employees killed was 80 in 1920 and 91 in 1921, an increase of 11, and the number of employees injured was 1,570 in 1920, as compared with 1,344 in 1921, a decrease of 226.

(3) The number of others killed was 157 in the year 1920 and 148 in the year 1921, a decrease of 9, and the number of others injured was 381 in 1920, as compared with 344 in 1921, a decrease of 37.

It is pointed out that out of 148 others killed, 64, or 43 per cent, were trespassers, and that out of 344 others injured, 91, or 26 per cent, were trespassers.

The following is a table giving the comparison between the total number of passengers carried by the railway companies, and the number of passengers killed and injured, and the same information as to employees. Figures giving the total number of passengers carried and employees are for the year ending 1920, the last figures available, and are taken from the Railway Statistics published by the Transportation Branch of the Dominion Bureau of Statistics:—

Passengers—	
Number of passengers carried on railways	51,318,422
Number of passengers killed	4
Number of passengers injured	240
Employees—	
Number of employees with railways	185,177
Number of employees killed	91
Number of employees injured	1,344
Trespassers—	
Number of trespassers killed	64
Number of trespassers injured	91

It will be noted that of what may be termed preventable loss, there were 64 killed under the heading "Trespassers" and 91 injured. This is a reduction of 9 in the number of killed and 29 in the number injured from the year ending December, 1920.

The following table shows the total by provinces as regards trespassers killed and injured for the year ending December, 1921:—

Province	Killed	Injured
Nova Scotia	1	1
New Brunswick	..	1
Quebec	8	12
Ontario	30	42
Manitoba	5	8
Saskatchewan	9	6
Alberta	7	14
British Columbia	4	7
Total	64	91

Attention is again directed to the statement setting out in detail the situation as regards highway crossing accidents during the past five years. It will be observed therefrom that there has been a total of 777 accidents, covering 294 persons killed and 905 injured.

Crossings protected by gates accounted for 24 killed and 71 injured.

Crossings protected by bell accounted for 43 killed and 95 injured.

Crossings protected by watchman accounted for 10 killed and 37 injured.

Crossings unprotected accounted for 217 killed and 702 injured.

There have been 191 accidents at protected crossings covering 77 persons killed and 203 persons injured, and at unprotected crossings there have been 586 accidents covering 217 persons killed and 702 persons injured.

During the year ending December, 1921, there were 189 accidents at highway crossings covering 70 persons killed and 214 persons injured, as compared with 191 accidents in 1920 covering 68 persons killed and 215 persons injured.

Automobile accidents totalled 114, divided as follows:—

At crossings protected by gates	3
At crossings protected by watchman	4
At crossings protected by bell	15
At crossings unprotected	92

Horse and rig accidents numbered 41, made up as follows:—

Gates	2
Watchman	1
Bell	6
Unprotected	32

Pedestrian accidents numbered 34, as follows:—

Gates	10
Watchman	nil
Bell	4
Unprotected	20

It will be observed from the above that 45 out of a total of 189 accidents occurred at protected crossings, leaving unprotected crossings to account for 144 accidents.

Full particulars of passengers and employees killed and injured, and other general information in regard to trespassers killed and injured, accidents at protected and unprotected crossings, etc., will be found under appendix "D".

FIRE INSPECTION DEPARTMENT OF THE BOARD

The railway fire inspection work has been carried on, as in former years, in co-operation with the various Dominion and provincial forest-protective organizations, selected officers of such organizations being designated to act locally for the Board in the capacity of fire inspectors.

Requirements relative to the maintenance of fire patrols and the reporting and extinguishing of fires have, on the whole, been carefully observed by the railways. with excellent results. In this connection, reliance is being placed upon the section forces and other regular employees, to an increasing extent, as distinguished from the handling of such work by a special force organized for the purpose.

During the year 10,270 miles of fire-guards have been constructed or maintained by railways in the Prairie Provinces, in accordance with the requirements issued by the Chief Fire Inspector. This constitutes a very good showing.

A total of 1,505 fires from all causes were reported as originating within 300 feet of railway lines in forest sections, subject to the Board's jurisdiction throughout Canada. This is a decrease of 159 fires over the figures for the preceding year. Of these fires, 641 were incipient and did no damage. Seventy-seven per cent are definitely attributed to railways, seven per cent to known causes other than railways, and sixteen per cent to unknown causes. A total area of 101,616 acres was burned over. Seventy-three per cent of this area was burned over by fires definitely attributed to railways, eighteen per cent by fires due to known causes other than railways, and nine per cent to fires of unknown origin.

The total damage by all these fires is estimated at $162,615; of this, the railways are charged with thirty-nine per cent, while forty-three per cent is charged to known causes other than railways, and eighteen per cent to unknown causes. The aggregate monetary damage due to these fires is $136,229 less than in 1920.

Under appendix "E" will be found a full report of the Chief Fire Inspector, together with summaries of fire reports, inspection of locomotives and fire-guard construction.

ROUTINE WORK OF THE BOARD

RECORD DEPARTMENT

Below is given a table setting forth the number of applications, filings and letters received during the year ending December 31, 1921, together with the number of orders issued:—

Number of applications made	3,454
Number of filings received during the year	34,262
Number of outgoing letters during the year	27,534
Number of orders issued during the year	1,454

THE BOARD OF RAILWAY COMMISSIONERS FOR CANADA

RECORD ROOM

STATEMENT showing the applications made to the Board under the various Sections of the Railway Act, for the year ending December 31, 1921

Sections of Railway Act	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
Rescinding of orders, sec. 34	6	5	5	4	11	16	5	45	22	4	5	9	137
Rules and regulations, sec. 34, 281, 287, 290, 296		1											1
Extension of time, sec. 41	1	4	4	4	6	12	13	7	5	4	5	3	68
Location of line, sec. 167-177	2	2	2	1	2	1	2			1		1	14
Route map, sec. 167	1												1
Correction of plans, sec. 174				1									1
Railway as constructed, sec. 175		3	3	3	1		2	2	2	1		1	18
Expropriation of lands, sec. 189-192		2	1				1						4
Appeals against Board's decisions						2		1					3
Branch Lines of railway, sec. 180-187	20	23	15	16	16	18	10	25	27	16	18	22	226
Railway crossings and Jcts. sec. 252-254	4	4			2		16	4	1	11	35	1	78
Interlocking appliances, sec. 252		2	1	5	1	3	10	2	3	2	2	1	32
Highway crossings, sec. 255-257	16	17	27	16	12	14	14	20	23	12	40	8	219
Highway diversion, sec. 256	6	2	6	5	2	5	6	2	4	1	3		42
Protection at crossings, sec. 257-267	12	7	7	4	13	17	15	14	10	8	12	12	131
Telegraph and telephone lines, sec. 367									1				1
Telgraph and telephone connections, sec. 371		1					2	1		1		1	6
Telegraph wire crossings, sec. 372						1			1				2
Power wire crossings, sec. 372		2		1		2				1		2	8
Telephone agreement, sec. 375	18	4	12	6	11	9	10	2	11	5	10	4	102
Canals, ditches, etc., sec. 268-271											1		1
Water pipes, sec. 269			1	1					1	2			5
Sewers, sec. 269					1		1	4	1				7
Culverts, sec. 269	1	3	1	5		2			2	1			15
Farm crossings, sec. 272-273	1	4	1	2	2	1	3	1	1		2	1	19
Protection at farm crossings, sec. 275						1						1	2
Cattleguards, sec. 274			3				2	3	1		1		10
Fencing right of way, sec. 274	1			1	1	2	7	3	1	3	3	9	31
Bridges, sec. 249-251	8	11	14	5	14	4	8	13	8	2	7	3	97
Stations, sec. 188	27	5	18	14	6	2	2	3	7	1	3		88
Conditions of stations, sec. 188		1			1								2
Station accommodation and agents	10	12	28	12	9	11	4	10	7	6	3	7	119
Opening of railway, sec. 276-277	1	2	2	2	1		1	1	4	1	5	6	26
Condition of railway, sec. 283	4	2	6	1	1	2	6	1	3	9	3	3	41
Rolling stock, sec. 298-301	1	2	9	7	12	19	6	4	6		3	2	71
Train service	3	2	4	5	4	1	1	1	3	4	2		30
Working of trains, sec. 287	5	1	4	1	3	2	9	0	1	4	10	1	41
Obstruction to traffic, sec. 311			1								1		2
Accommodation for traffic, sec. 312	3	4	7	3	6	2	2	2	3	5	2	1	40
Accident reports, sec. 285-286	62	38	40	25	36	42	40	38	48	44	40	25	478
Fires from locomotives, sec. 280-281-287-387				1	9	3	11						24
By-laws re tolls, sec. 323				2	1		1	1		2			7
Interswitching, sec. 316-337						1	1				1	3	6
Freight classification, sec. 322			1	3	1	2	3				3	2	15
Disallowance of tariffs, sec. 325					1			1	1	1		1	5
Standard freight tariffs, sec. 330			1					1				2	4
Standard passenger tariffs, sec. 334	2					1				2			5
Local passenger tariffs		1	1										2
Adjustment in rates	4	6	1	1	4	8	4	9	7	8	8	4	64
Special freight tariffs, sec. 331	1		2		1	2	2	1	2		1		12
Special passenger tariffs, sec. 335		1	1					1			1		4
Provisions for carriage, sec. 344 348				1	1	2							4
Express tolls, sec. 360-366		1	1	2		2		2			2		10
Carriage by express, sec. 364	2	1	1	4		3	4		1				16
Telephone Tolls, sec. 375	2		1		2			1		2	1		9
Amalgamation agreements, sec. 151-153					2	1				1			4
Traffic agreements, sec. 154		1	2	2									5
Statistics and returns, sec. 379-384				1									1
Inquiries	13	9	5	7	5	11	12	12	6	6	9	6	101
Complaints	66	71	61	66	65	56	49	68	54	49	50	48	703
Miscellaneous	16	23	22	18	20	26	25	12	19	5	17	15	212
Deviation of line, sec. 178		4	8	1		1	2		3	1	3		23
Totals	313	285	330	259	286	316	312	318	360	226	312	205	3,455

APPENDIX "A"

PRINCIPAL JUDGMENTS OF THE BOARD FOR THE YEAR ENDING DECEMBER 31, 1921

CANADIAN FISHERIES ASSOCIATION *v.* CANADIAN EXPRESS COMPANY *re* RATES ON FISH

Judgment, Chief Commissioner Carvell, January 8, 1921, concurred in by Deputy Chief Commissioner Nantel:

At the sittings in Prince Rupert on October 6, last, complaint was made by the Canadian Fisheries Association against a recent order of the Canadian Express Company by which they refuse to carry 102½ pounds of fresh fish packed in ice as 100 pounds, claiming that this practice was carried on at Vancouver and Seattle, being the other points along the Pacific Coast in competition with Prince Rupert. The whole case is found in the application of Mr. Williams, the counsel for the complainants, which is as follows:—

> "One matter is that on the Pacific coast from Tacoma north, the deep sea fishermen bringing in halibut are allowed a deduction of 2½ per cent to cover slime and ice, which it is not advisable to wipe off the fish because the fish keep better if it is not removed. The custom obtains also of shipping those fish out upon the same basis. That is the fish plus the slime and ice weighs 2½ per cent more than the invoice. That obtains I understand all up the Coast, the idea being that the slime and ice is not fish.
>
> "Recently the Canadian Express Company ruled that they had to be paid for the slime and ice. That is that the fish had to be billed and the express paid upon the invoice weight plus the 2½ per cent."

Attempts were made to substantiate the contention that this practice prevailed up and down the coast, particularly at Vancouver and Seattle, and it was held that Prince Rupert was being unjustly discriminated against in not allowing this custom to continue.

The Canadian Express Company repudiated any knowledge of such a custom. Mr. W. J. Cash, Manager of the Booth Fisheries, was called upon as a witness and stated (including some questions asked by myself in order to bring out the contention more clearly) as follows:—

> "In Seattle the express company accepts shipments at invoice weight. The tariff allows no reduction on that invoice weight. Nevertheless, this which we claim not to be fish is not charged for in Seattle. They make no allowance in their tariff; just the same as the tariff here; the tariff calls for net weight. We claim net weight and this is in addition to what we claim is net or invoice weight.
>
> THE CHIEF COMMISSIONER: Why should the express companies be compelled to carry 102½ pounds of weight and get paid for 100 pounds?
>
> MR. CASH: The fish is weighed up on that basis. There is an accumulation, owing to the fish being packed in the holds of vessels in crushed ice. Another thing is there is slime on the outside of the fish that keeps it.
>
> THE CHIEF COMMISSIONER: Admitting all that, why should the express company be compelled to carry that 2½ per cent for nothing?
>
> MR. CASH: Their charges are on the net weight of the fish and they carry the boxes and ice for nothing."

Mr. Williams also produced a statutory declaration by a Mr. George H. St. Denis, the Vancouver manager of the Canadian Fish and Cold Storage Company, Limited, declared to before James M. Coup, a commissioner, etc., at Vancouver, on the 27th day of September last, alleging that for seven years he had been local manager of the Canadian Fish and Cold Storage Company in Vancouver and, previous to that time, had been in the employ for several years of the New England Fish Company and the Canadian Fish Company at Vancouver, and, during his said employment, in shipping fresh halibut in carload quantities to eastern points, he had loaded 2½ per cent more fish into each box than was declared on the shipping documents handed to the express companies, and also claimed that, to his knowledge, it had been the practice for many years of other companies shipping from the same point.

The Dominion Express Company was represented at the hearing by Mr. Burr, its traffic manager, and by Mr. MacDonell, its general manager, and they stated positively that, if any allowance had been put on by the shippers using the Dominion Express Company, it had not been done with the knowledge of the company, and they stated they were then investigating the matter at Vancouver.

The parties were to furnish additional evidence as to the facts, and, in the month of October last, we received a copy of a letter from Mr. E. M. Whittle, General Manager of the American Railway Express Company at Seattle, addressed to its vice-president, as follows:—

"SEATTLE, WASH., October 13, 1920.

"Mr. A. CHRISTESON,
Vice-President.

"DEAR SIR,—Referring to your letter of September 21, and dunner of October 4, relative to certain allowance from actual weights alleged to have been made in connection with fish shipments forwarded from North Pacific points.

"In order to get at the exact facts I arranged with General Agent Hargrave to place a man at one or two of the fish houses at the time a carload was being packed and prepared for shipment. We selected the San Juan Fishing and Packing Company and Booth Fisheries, as they are the principal shippers from this district. At the former place we checked a complete carload forwarded in Northern Pacific refrigerator 99015 to Kansas City. This concern weighs the fish in a hopper scale and the product is placed direct in the boxes after weighing. The weigher keeps a record of the amount of fish placed in each box and weights are then marked on the box. Our man took the exact weight as shown on the scales, while the weigher for the San Juan Fishing and Packing Company used even pounds, sometimes allowing almost a pound on a box, but, as a rule the allowance would not be more than half a pound, it being the intention to give down weight on the scales on all shipments forwarded. On this carload the actual weight as taken from the scales by our man was 20,735 pounds. The billing weight furnished us by the shipper was 20,630, a difference of 105 pounds. This would be approximately one pound to the box, each box containing approximately two hundred pounds of fish.

"A complete car was not checked at the Booth Fisheries, as it was found early in the operation that their methods were exactly the same as those of the San Juan Fishing and Packing Company, that is, they gave us for billing purposes the weight furnished by the scale man which ran a little under the actual weight, as he gave the consignee the benefit of anything under an even pound on each box.

"A check of the Ripley Fish Company on L. C. L. shipments indicated that they arrived at the weight as closely as possible and gave us for billing purposes the actual weight as shown on the scales, with no deduction whatever.

"Any variation from actual weight on shipments of fish forwarded from Seattle is at the scales and not through any percentage deductions after the boxes have been packed.

"It is very clear, therefore, that the charge as made is not in accordance with the facts, and while there may be a variation of approximately 100 pounds on a car-load of fish, it is not arrived at by any method of deduction, simply due to shippers showing the weight in round numbers dropping any fractions of a pound. 2½ per cent of the actual weight of the San Juan car, or 20,735 pounds, would be 418 pounds, whereas the billing weight as given to us was 20,630.

"Fish shippers here verify the statement that there is excess weight on both halibut and salmon on account of the accumulation of what is known as "gurry," consisting of slime and ice, but that no effort has ever been made to make any percentage reduction in the net weight to take up the item. The San Juan Fishing and Packing Company showed us the returns on several cars, each indicating that they were paid on the basis of the net weight at the time of delivery, which in each case was considerably less than the billing weight, in one instance as much as 500 pounds.

"I cannot see that there is any violation of tariff provisions and believe it would be unreasonable for us to expect shippers to weigh out these two hundred pound boxes of fish to the ounce.

"Yours truly,

E. M. WHITTLE,
"General Manager."

I, therefore, take it that a custom has been in existence along the Pacific coast of shipping slightly more in weight than has been paid for, but the practice has not been uniform, and I am therefore compelled to decide this matter purely upon the legal question involved as to the meaning of the words "net weight."

The fresh fish tariffs of the Dominion, Canadian, and Canadian National Express Companies show that the carload rates apply on the net weights, subject to a carload minimum of 20,000 pounds. The tariff published by the American Railway Express Company applying from Prince Rupert and Vancouver, in connection with the Dominion, Canadian and Canadian National Express Companies, to United States destinations also provides for net weights.

While the complainants may contend that the words "net weight" of the tariffs literally support their contention, what the tariff framers in all likelihood meant was the net weight as distinguished from the gross weight; in other words, the gross weight minus the weight of the box and the ice added at Prince Rupert, etc., as preservative.

As pertinent to this case, I quote from the judgment of the ex-Chief Commissioner, Sir Henry Drayton, in a complaint of the W. J. Guest Fish Company, of Winnipeg, regarding the express rate on fresh fish, in carloads, from Vancouver to Winnipeg, issued November, 1914 (file No. 4124.436), as follows:—

"The fish has to be carried in containers and on ice, and it has been calculated that the additional weight represented by the containers and the ice brings the weight of 20,000 pounds at which the rate is charged, to 32,000 pounds; so that, as a matter of fact, the company has to carry 38 per cent more weight than it is paid for. These calculations are probably more approximations than actual, but there is no doubt that the handling of fish does entail the carriage of a considerable extra weight."

I therefore must conclude that the words "net weight" mean the weight of the fish, and, if there should be a certain amount of slime attached to it, it is a part of

the fish just the same as would be the fins or bones, and, therefore, I think the express company is justified in refusing to accept the billing as tendered.

In so far as the Dominion Express Company is concerned, while, as before stated, it had no knowledge of the custom, they have now instructed their superintendent at Vancouver that no such privilege shall be allowed in future, and, therefore, there will be no discrimination between Prince Rupert and Vancouver. From the practice carried on by the American Express Company at Seattle, I can see nothing which would justify a continuation of the practice in order to meet conditions at that point. The application will, therefore, be refused.

Re COMPENSATION TO BE PAID BY GRADE COAL COMPANY, LIMITED, FOR CONSTRUCTION OF CANADIAN NATIONAL RAILWAYS SPUR FOR THE NEWCASTLE JUNIOR MINING COMPANY, LIMITED, AT DRUMHELLER, ALTA.

Judgment, Commissioner Rutherford, January 10, 1921, concurred in by Assistant Chief Commissioner McLean.

This case arises from the application of the Canadian National Railways, under sections 181 and 182 of the Railway Act, 1919, for authority to construct, maintain and operate a spur line of railway for the Newcastle Junior Mining Company, Limited, across a portion of the southeast quarter of section 10, township 29, range 20, west of the 4th meridian, the mining rights under which area are held by the Hy Grade Coal Company, Limited, of Drumheller, Alberta, under a sub-lease from the Drumheller Land Company, which in turn holds the land under lease from the Crown.

At the opening of the hearing at Drumheller, on June 17, 1920, an agreement ws reached between the parties, whereby the application of the Canadian National Railways was so amended as to come within the provisions of sections 164 and 197 of the Railway Act, 1919.

All parties consented to the construction of the spur line of railway, and Order of the Board No. 29809, authorizing the same, accordingly issued on June 29, 1920, this order expressly stipulating that the authority was conferred, "subject to determination by the Board of the matters alleged to fall within the scope of section 197 of the Railway Act, 1919," which reads as follows:—

> "The company shall, from time to time, pay to the owner, lessee or occupier of any such mines, such compensation as the Board shall fix and order to be paid; for or by reason of any severance by the railway of the land lying over such mines; or because of the working of such mines being prevented, stopped or interrupted, or of the same having to be worked in such manner and under such restrictions as not to injure or be detrimental to the railway, and also for any minerals not purchased by the company which cannot be obtained by reason of the construction and operation of the railway."

The spur track in this case, authority for the construction of which was granted by the Board's Order No. 29809, leaves the Canadian National Railways' right of way at a point in legal subdivision 1, in the southeast quarter of section 10, township 29, range 20, west of the 4th meridian, about 350 feet west of the road allowance between sections 10 and 11, and running for approximately 1,190 feet in a southerly direction, crosses the south boundary of section 10 at a point about 200 feet west of the said road allowance.

At the hearing on June 17, 1920, there was also before the Board the application of the Elgin Coal Company, Limited, of Drumheller, Alberta, for an order directing the Canadian National Railways to construct a spur line of railway to lead from the proposed Newcastle Junior Mining Company's spur to the Elgin Coal Company's property in the northeast quarter of section 3, township 29, range 20, west 4.

This spur as projected left the Newcastle Company's spur some 350 feet north of the south boundary of section 10 and running southeast, largely reduced the area between the Newcastle Company's spur and the road allowance between sections 10 and 11. The condition created by the filing of this application naturally affected the nature of the evidence adduced and the arguments submitted in both cases, and the Assistant Chief Commissioner ruled, after an agreement to that effect between all the parties represented, that where evidence given in either case had a bearing on the other, it should so apply.

The application on behalf of the Elgin Coal Company having since been withdrawn, the situation has undergone a considerable change, especially in regard to the practicability of mining the coal in the area above referred to, namely, that lying between the proposed spur of the Newcastle Junior Mining Company and the road allowance between sections 10 and 11.

In both cases, evidence was adduced by the applicants questioning the validity of the lease under which the Hy Grade Coal Company holds its land, inasmuch as the original lease from the Crown is held by the Drumheller Land Company, the coal mining rights being sublet to the Hy Grade Coal Company. As the legal status of the Hy Grade Coal Company in the matter of land tenure does not enter directly into the question submitted to the Board, being properly a matter to be decided in the courts, it is not dealt with in this judgment.

The question is that of the amount which should be paid to the Hy Grade Coal Company as compensation for damage to its interests, arising out of the construction and operation of the railway spur for the Newcastle Junior Mining Company.

In considering this question of compensation, there are four important points to be dealt with, namely,—

1. The areas affected,—

(*a*) The actual area required for the construction of the spur for the Newcastle Junior Mining Company;

(*b*) The area lying between the Newcastle Junior Mining Company's spur and the road allowance between sections 10 and 11, township 29, range 20, W. 4.

and the quantity of coal which but for the construction of this spur could be removed from these areas by ordinary mining methods and with the usual operating costs.

2. The extra expenditure involved in removing the coal from areas (*a*) and (*b*), as also from the area lying to the west of the spur, as a result of the construction of the said spur.

3. The quality and probable value from a marketable standpoint of the coal in areas (*a*) and (*b*) as also in the area lying to the West of the spur, in regard to which severance is claimed.

4. The general comparative values of coal lands of like character and similarly situated as to development and operation.

Generally these points are dealt with in the order as given, but it will be seen as the case develops, that it has been necessary, in order to arrive at a decision, to consider them as more or less closely related factors.

1. The areas affected,—

(*a*) The actual area required for the construction of the spur for the Newcastle Junior Mining Company;

(*b*) The area lying between the Newcastle Junior Mining Company's spur and the road allowance between sections 10 and 11, township 29, range 20, W. 4.

and the quantity of coal which, but for the construction of this spur, could be removed from these areas by ordinary mining methods and with the usual operating costs.

Area (*a*), being the parcel of land actually required for the construction of the railway spur for the Newcastle Junior Mining Company across part of the southeast ¼ of section 10, township 29, range 20, west 4, is a strip of land 66 feet wide extending from the Canadian National Railway right of way in a southerly direction for a distance approximately 1,190 feet to the line between section 10 and section 3, township 29, range 20, west 4, and comprises an area of 1.53 acres.

Area (*b*) is the parcel of land lying between the Newcastle Junior Mining Company's spur and the road allowance between sections 10 and 11, township 29, range 20, west 4, and is bounded on the south by the line between the southeast ¼ of section 10 and the northeast ¼ of section 3, township 29, range 20, west 4. This area comprises 2·17 acres.

The total area affected is therefore as follows:—

Area (*a*)	1·53 acres
Area (*b*)	2·17 acres
Total	3·7 acres

The tonnage of coal involved in area (*a*), namely that under the right of way of the Newcastle Junior Company's spur (comprising 1·53 acres), was estimated by Mr. Savary, counsel for the Hy Grade Coal Company, supported by the evidence of its engineers, at 13,568 tons of which he stated the Hy Grade Coal Company could, under ordinary circumstances were the spur not constructed, recover 85 per cent or 11,532 tons, provided the pillars could be withdrawn at the close of the operations.

Statements submitted in evidence by the accountant for the Hy Grade Company show an estimated profit per ton of 89·25 cents, but Mr. Savary stated that for purposes of calculation the company claimed a profit of 89 cents per ton. At this rate of profit the 11,532 tons estimated as recoverable from area (*a*) would have a value of $10,263.48.

Counsel for the Hy Grade Coal Company further submitted that if the pillars could not be withdrawn at the close of mining operations, even without the railway there, the amount of coal which would be recoverable from the ground occupied by the spur would be reduced from 11,532 tons to 6,919 tons, which is an additional reduction of 40 per cent on the 11,532 tons, although he had previously stated that the pillars comprise 40 per cent of the total tonnage.

Expert evidence given at the hearing indicated that this calculation was incorrect: that the loss when the pillars are not withdrawn is actually 40 per cent of the total tonnage; 60 per cent of the total tonnage being recoverable when the pillars are not removed at the close of mining operations.

If therefore, the estimate of the Hy Grade Coal Company, of the total tonnage under the land occupied by the spur, namely 13,568 tons, were to be accepted, the amount recoverable if the pillars could be withdrawn would be 85 per cent or 11,532 tons, while if the pillars could not be withdrawn, the amount of coal recoverable would be 60 per cent or 8,141 tons (not 6,919 tons as submitted by Mr. Savary). This 8,141 tons at the Hy Grade Company's estimated profit of 89 cents per ton, would have a value of $7,245.49.

With regard to area (*b*), counsel for the Hy Grade Coal Company submitted estimates of tonnage involved as follows:—

Total tonnage in this area, 11,597 tons, of which 85 per cent, or 10,163 tons, would be recoverable if the pillars could be withdrawn at the close of mining operations; he made the further statement: "If we cannot remove the pillars, we lose 40 per cent of that, which leaves us 6,097 tons of coal which we could get, and at a value of 89 cents we would get $5,426.33."

Again in this case, Mr. Savary's calculations, which he apparently quoted from statements prepared by the Hy Grade Coal Company's engineers, are quite evidently

incorrect. The 40 per cent of coal comprised in the pillars is 40 per cent of total tonnage, and in this case therefore, if the Hy Grade Coal Company's figures as to total tonnage in area (*b*) were accepted as correct, the amount of coal recoverable, if the pillars could not be withdrawn, would be 60 per cent of 11,957 tons or 7,174 tons.

The Hy Grade Coal Company's calculations further show an estimate of tonnage for the total area involved (*a* and *b*), of 25,525 tons, of which 85 per cent or 21,696 tons would be recoverable, provided the pillars were withdrawn.

Summarizing the Hy Grade Coal Company's calculations as to the total tonnage involved, it is somewhat interesting to consider these in comparison with the acreage of the two areas:—

Area (*a*), comprising 1·53 acres—Calculated by Hy Grade Coal Co., to involve 13,568 tons.

Area (*b*), comprising 2·17 acres—Calculated by Hy Grade Coal Co. to involve 11,957 tons.

Total area, comprising 3·7 acres—Calculated by Hy Grade Coal Co. to involve 25,525 tons.

In this connection it should, however, be noted that Engineer Kidd, on behalf of the Hy Grade Coal Company, estimated that, in addition to the actual 66 foot strip occupied by the spur, there would be a further loss of coal owing to the necessary jogs in the entries under the spur, although the quantity of coal thus involved is very small as compared with the difference shown above.

Without expressing any opinion as to the advisability of withdrawing the pillars in that portion of the Hy Grade Coal Company's mine lying east of the road allowance, where the cover is evidently thicker and of greatly better character, the evidence on this point as given at the hearing was such as to convince the Board that if the pillars were withdrawn in the area lying west of the road allowance, the safety of the miners would be greatly endangered, the mine would be exposed to the risk of flooding and there would be serious damage to the surface rights, which were shown by the evidence to be, in this locality, worth approximately $500 per acre for building purposes.

2. The extra expenditure involved in removing the coal from areas (*a*) and (*b*), as also from the area lying to the west of the spur, as a result of the construction of the said spur.

The general consensus of evidence given at the hearing was to the effect that the coal in area (*a*), actually occupied by the right of way of the Newcastle Junior Company's spur, could not be mined at a profit, owing to the extra timbering required to safeguard the operation of the railway line. The evidence of a number of witnesses went to show that the coal had been removed from that portion of the property lying under the Hy Grade Coal Company's spur, without extra cost for timbering, but it was also shown that the conditions there were very different. The cover at that point is over twenty feet in thickness and consists in part of a stratum of hard iron sandstone rock, while in the locality of the Newcastle Junior Mining Company's spur, the covering is much thinner and of greatly inferior quality, consisting of thin water-worn rock, sand and gravel which would necessitate extra heavy timbering.

Mining Engineer Kidd, appearing on behalf of the Hy Grade Coal Company, estimated the cost of timbering the two entries (first and second northwest butt entries), which it was proposed to drive under the spur in order to reach the coal on the west side of the track, at $1,075.35 and the extra engineering required to keep the rooms from running under the right of way at $150. Under cross-examination by Mr. Temple, on behalf of the railway company, this engineer stated that after the coal was removed and these entries were no longer required, it would be good business to chock them with rock, rather than to attempt to permanently maintain the timbering and he estimated the cost of such chocking of the two entries at $1,140.

Mr. Jesse Gouge stated in argument, on behalf of the Newcastle Junior Mining Company, that the estimate of $1,075.35 for timbering the two butt entries was ridiculously extravagant and estimated the total cost of timbering each entry at $75, or presumably $150 altogether.

With reference to the possibility of mining the coal in area (*b*) lying between the spur and the road allowance between sections 10 and 11, and comprising 2·17 acres, the evidence at the hearing was somewhat conflicting. Mining Engineer MacCauley, employed by the Liberty Coal Company, and president of the Newcastle Junior Mining Company, stated under cross-examination that assuming the coal in this area to be as good quality as elsewhere in the same field, it could be profitably worked, and on request, pointed out the methods which, in his opinion, should be adopted in operating the area in question, namely, to drive the slope through the closest possible point to save in haulage and then drive entries parallel with the road allowance.

On the other hand, Mining Engineer Jones, on behalf of the Hy Grade Coal Company, while admitting that the methods described by Mr. MacCauley were the proper methods for working this area, contended that it could not be profitably mined; that the entry work and switches necessary to remove the coal from this area would cost $1,361, for which expenditure in entry work and switches elsewhere in the property, 35,925 tons of coal could be obtained, whereas, owing to short rooms and extra haulage, it would be possible here to take out only 7,198 tons. On checking up this last-mentioned tonnage, it has been found to be approximately 60 per cent of the total tonnage claimed by the Hy Grade Coal Company to be involved in this area (*b*).

3. The quality and probable value from a marketable standpoint, of the coal in the areas (*a*) and (*b*), as also in the area lying to the west of the spur, in regard to which severance is claimed.

Much greatly conflicting evidence was submitted as to the quality and probable value from a marketable standpoint of the coal in areas (*a*) and (*b*), as well as in the area lying west of the spur.

Mining Engineer Jones, on behalf of the Hy Grade Coal Company, stated that he had examined the coal at points where the Hy Grade mine encroached on the road allowance and found coal equal in appearance to that in any other part of the mine. No borings or tests had been made on the land occupied by the right of way, but he was familiar with the field and found that though there were some spots better or worse, this seam was fairly uniform.

Mining Engineer Kidd, on behalf of the Hy Grade Coal Company, under cross-examination by Mr. Gouge, stated that the land sloped from the road allowance westerly or a little south of west, towards the creek which enters section 10 and crosses the railway some few hundred feet west of the Newcastle Junior Company's spur. He believed the seam of coal outcropped in the creek, the bed of the creek being about twenty feet lower than the level of the road allowance. He thought that at the creek there was from five to ten feet of cover; that going westerly and northerly the ground dipped and the cover became thinner. At the point in the workings of the Hy Grade mine adjacent to the road allowance the surface had caved in rooms 3 and 4 off the first east butt entry; he had not noticed any other cavings near the road allowance on the west side of the property. There had been no work done and no coal removed from the vicinity of the road allowance during the last three months. The coal in room 2, off the first east butt entry, was, so far as he knew, perfectly good clean coal. He could not tell anything regarding the coal in entries 1 and 2 where they intersected with the road allowance as he had not been in that part of the mine for over a year.

To the counsel for the Hy Grade Coal Company this witness stated that he did not think the cover was less than 15 feet thick on any portion of the areas affected

by the construction of the spur; on the south boundary of section 10 would be the lowest point, but he thought it would be 15 feet thick there. The greatest depth of cover in these areas would be from 15 to 20 feet. To the Assistant Chief Commissioner he stated that this was not a matter of knowledge from tests but merely from knowing the depth at various points; there might be a variation of five feet from the irregularity of the surface.

Pit Boss Barclay, of the Hy Grade mine, stated that the coal in this mine was of the same quality as that in the Newcastle, Premier, or other mines in the locality. He found no local spots of inferior quality. The coal in the entries encroaching on the road allowance was quite good; practically the same as in any other part of the mine.

Duncan MacDonald, Provincial Inspector of Mines, in the performance of his official duties, frequently had occasion to go through the mine of the Hy Grade Coal Company. He had examined the coal along the westerly side of the workings approaching the road allowance. Back at the airshaft the depth was 27 feet, including the seam, which would leave 22 feet above the seam. The surface is undulating and the cover gets thinner towards the west. The coal on the westerly side of the mine was rusty. Entry number 1 going straight from the main shaft went into mushy coal under the road allowance; coal almost like moss. In his opinion there must have been seepage from the outcrop into the seam to produce this condition. There was a raise at that point of about four feet towards the surface. When the cover gets slack the coal becomes rusty. At the south end of the first and second butt entries in section 11 the coal looked pretty good and the roof was better. In the portion of the mine crossing the road allowance into section 10 he did not think the coal should be worked for commercial purposes, the cover being light. The coal was exposed in the bottom of the creek near the southwest corner. Rusty coal affected the market, as its value was slightly reduced for fuel purposes. Coal taken from under light cover contains a high percentage of moisture and when exposed to the atmosphere the moisture is absorbed and the coal breaks up very quickly.

It was not his official duty to interfere with the shipment of coal on account of its quality. As a man experienced in the coal industry, he considered the shipment of poor coal created a bad impression in the eastern market, but the Government does not control the quality of the coal.

To the counsel for the Hy Grade Coal Company this witness stated that he found mushy coal at the point where one entry encroaches on the road allowance, as also at one other point. All the coal in that vicinity was rusty coal of no commercial value and he thought the reason the Hy Grade people turned the workings at the road allowance was because the coal was mushy there. It was not unusual to find mushy coal when there was a depression of the ground and there was such a displacement there.

Mining Engineer MacCauley, on behalf of the Newcastle Junior Mining Company, stated that the road allowance and the right of way are approximately on the same level but the ground slopes rapidly from there towards the creek. Where the cover is light they invariably get rusty and mushy coal. Unless it is necessary to go through such areas for the further development of the mine, coal of that class is left alone, as it is not wanted by the trade. The labour cost of taking out coal, without overhead or equipment, is approximately $3 per ton and no coal of rusty or slack character is worth $3 per ton when it is in the car.

Mr. Jesse Gouge, on behalf of the Newcastle Junior Mining Company, stated in evidence that the coal in this field is lignite, particularly valuable if mined, loaded and sold in lump form, but has no value as slack. In this field thousands of tons of slack, for which there is no market, are annually wasted, and a large amount is sold for twenty-five cents per ton, or approximately the cost of loading, this being coal that has cost $3 per ton to bring out. Coal which will not come out in lump

form of a clear character has very little value; if it comes out in slack form it has no value. In screening coal which is particularly friable or easily broken, the percentage of slack is greater. In some places the percentage of slack might run to 30 per cent or 40 per cent, and immediately they got away from light and into heavier cover, the percentage would go down to 15 per cent or 20 per cent, the cost of mining the coal remaining approximately the same.

Mining Engineer Jones, on behalf of the Hy Grade Coal Company, stated that he had visited and inspected the mine at several points; where the entries encroached on the road allowance and a number of other points in the same vicinity. He found the coal there of the same quality as in the face of the mine. Dealing particularly with the two points on the road allowance, which he had visited the previous day, he stated that the coal at these points was neither rusty nor mushy; from his observations of the conditions existing in the work along the road allowance he thought the coal on the other side of the road allowance and extending to a distance of 275 feet to the west side of the spur, should show no change in quality; he would not expect to find any marked change in the coal owing to the diminishing of the thickness of the cover going down the slope towards the creek.

Charles L. Stanley, Secretary-Treasurer of the Elgin Coal Company, and formerly master mechanic at the Hy Grade Mine, testifying in the Elgin application, stated that the coal at the bottom of the slope in the Hy Grade mine appeared to be all right, but that as they went further south they found soft coal; the floor raised several feet and it appeared to be going to crop out a little further on; where they started to cross the road allowance they found soft coal, and they then cut across (presumably to the southeast) and the coal was again of uniform quality. They had much difficulty in marketing the coal taken from near the road allowance; Mr. McNab, a director of the company and one of its sales agents, refused to take this coal at all, as it was nothing but slack. Such coal was mined and marketed at a very great loss. He had a conversation with Mr. McConkey regarding the value of the coal along the west side and had asked him why they ever took up that piece of coal land at all. Mr. McConkey had stated that he realized that it was not worth anything practically, but it added to acreage and therefore if they ever wanted to sell the mine, it would give them a better selling on account of more acreage.

Mr. McConkey, Managing Director of the Hy Grade Coal Company, stated, in regard to this conversation with Mr. Stanley, that he did not remember making a direct statement of the kind attributed to him; he had said to Mr. Stanley that a certain portion of the land through the gulley was not of much use and that the coal from it would not be of much use.

Asked by counsel for the Hy Grade Coal Company if any remark of that sort referred to the coal near the road allowance, or within four or five hundred feet of it, he replied:—

> "I was only a visitor to the mine at intervals."

M. C. Pitcher, Consulting Engineer and Professor of Mining in the University of Alberta, testified in the Elgin application that he had been in the Hy Grade mine and that at the foot of the slope into the road allowance, the coal was mushy. Asked as to the probable profit to be made from mining the coal to the south-west of the two main entries, he stated that he would not have recommended working the coal there at all without further prospecting; he did not think this coal would warrant working and doubted if one would get operating costs from it, though he would not abandon it without prospecting.

Although chiefly concerned with the Elgin application, his evidence was generally to the effect that there were grave doubts as to the quality of the coal lying west of the road allowance; that the cover in that area was undoubtedly light and that if the pillars were taken out, not only would the surface be lost, but there would be serious danger of flooding the mine from the creek, especially in the spring.

Considerable evidence was given on behalf of all the companies interested by a number of miners who had previously worked in the Hy Grade mine, as well as by several others still employed there. Their respective statements were, however, of so contradictory and conflicting a character as to render this evidence of no practical value.

On the whole, the evidence given on this point was such as to convince me that while the quality of the coal in the areas under discussion was very largely a matter of conjecture, the probabilities at least were against its being equal in uniform value to that now being obtained from the same seam, but under better cover.

4. The general comparative value of coal lands of like character and similarly situated as to development and operation.

Evidence bearing on the value of coal lands in the Drumheller district was given by Mr. Jesse Gouge, who cited sales of 1,280 acres to the Midland Collieries for $50,000, and 1,280 acres to the Western Gem Mine for $50,000. Valuations of coal lands in the district have run from $300 to $400 per acre. Most of these lands had been proven by test holes and shafts before sale was completed, and while they were coal properties, tested and proven, he admitted they were not developed mines. In the capitalization of the Alberta Block Coal Company, 560 acres of the same seam of coal, further under the hill, with high cover, the valuation put upon the coal lands was $150,000 for 560 acres (approximately $268 per acre). The revenue collector in Calgary had objected to this valuation as too high. Coal lands are valued by the town of Drumheller for school taxes at $40 per acre.

Professor M. C. Pitcher, testifying in the Elgin application, when asked by counsel for the Hy Grade Coal Company as to the value of coal lands in this district, stated that they were worth whatever you could get for them. He once knew of an acreage having been sold in the district, adjacent to mines that had been started and not very well developed, at $300 and $350 per acre, the latter being the highest price at which he knew of coal lands being sold in Alberta. Good coal lands could be leased from the Dominion Government on lines of railway, at $1 per acre per year; he had bought coal lands in Alberta, adjacent to operating mines at $40 per acre and had been unsuccessful in selling coal lands in the Edmonton district at $8 per acre: he had succeeded in having his taxation of $22 per acre on coal lands in the Edmonton district reduced to $16 per acre.

Upon being asked as to whether this was a fair way to get at the value of the coal to the mine operator whose coal is already developed and ready to take out, he stated that the value of the coal to such a man depended upon what he could make on the coal he could get out: that if he had a mine developed to the point of operation he would not value the coal by what he would have to pay for a lease somewhere else, but contended that the price he had quoted was for lands adjacent to an operating mine; that the value of coal lands to the mine operator depended upon the expense of operation, how much coal there was to the acre, the ease of operation and quality of the coal.

A. H. Gibson, a coal operator, testifying in the Elgin application, had recently acquired 3,358 acres of land immediately to the south of section 2, bought in freehold tenure from the Canadian Pacific Railway Company, as part of their grant from the Government, at a price not exceeding $15 per acre. In his opinion this land is more valuable than the land in section 2, immediately to the north of it, as it has been proven further back and has heavier cover.

In the light of the evidence as summarized, the points requiring consideration should, in my opinion, be dealt with as follows:—

With reference to area (a), the land occupied by the spur, and which comprises 1.53 acres, the evidence offered as to the quantity and quality of the coal which, but for the construction of the spur, would have been recoverable therefrom, was not such as to justify the approval of the claims for compensation, advanced by the

Hy Grade Coal Company. No satisfactory proof was furnished as to the actual quantity of coal in this area, and while, under the circumstances, the furnishing of such proof may have been practically impossible, the marked difference in the Hy Grade Coal Company's estimate of tonnage per acre in area (a) as compared with area (b), gives rise to grave doubts as to the correctness of the calculation in either case.

The evidence produced by the Hy Grade Coal Company as to the quality of coal in both of these areas as also in the area lying west of this spur, was not such as to justify the opinion that it was equal in value to that found in the main workings of the mine, where the cover and other conditions are more favourable.

On the other hand the evidence offered as to the inferior quality of the coal in these areas was also somewhat vague and unconvincing. In view of all the attendant circumstances and conditions, I am of opinion that instead of basing compensation on the calculations submitted, the amount of damage in regard to area (*a*) may reasonably and fairly be decided by adopting as a basis the acreage value of coal lands in the Drumheller district.

The figures quoted in evidence in this connection vary widely, such variation being due to differences in the matter of development and consequent convenience or otherwise in operation. The highest figure mentioned by any witnesses was $400 per acre, but in view of the undoubtedly serious interference with the working of this part of the Hy Grade mine, I do not think that any such valuation could be reasonably applied in this instance, especially when the figures submitted by the Hy Grade Coal Company are accorded that measure of consideration, to which they are, at least in some degree, entitled. I am therefore of opinion that in regard to area (*a*), comprising as already stated 1.53 acres, a price of $1,000 per acre, or a total compensation for this land of $1,530 should be allowed.

In regard to area (*b*), being the land lying between the spur and the road allowance, and comprising 2.17 acres, the situation is altogether different. It was shown in evidence and not contradicted, that the coal in this area could be mined, the only question left at issue being that of profitable operation. The inconvenience and extra expenditure in working this area was largely if not altogether due to the fact that it was bounded on the east by the road allowance between sections 10 and 11, under which only two entries had been authorized by the Provincial Government. The Newcastle Junior Mining Company was in no way responsible for the existence of the road allowance, which, in fact, was the principal obstacle in the way of the Hy Grade Coal Company extending its workings through to the spur.

I am therefore convinced that even as matters stood at the time of the hearing, the Hy Grade Coal Company was not entitled to compensation on account of any loss of coal which they might suffer in area (*b*).

Since the hearing, however, the Board has been officially informed by the director of surveys for the province of Alberta that instructions have issued for the closing of the road allowance between sections 10 and 11, action in this regard being merely delayed until a new roadway is surveyed.

Under the circumstances no damages should in my opinion be allowed the Hy Grade Coal Company on account of the coal in area (*b*).

The extra operating expenditure involved in mining the coal in the area West of the spur, as shown by the calculations of the engineers of the Hy Grade Coal Company, comprised:—

1. Extra timbering of two entries under spur..	$1,075 35
2. Extra engineering required to keep rooms from running under spur..	150 00
3. Chocking of entries with rock when coal has been removed from area west of spur and mining operations completed.. ..	1,140 00
Total..	$2,365 35

Although the point was not specifically raised at the hearing, it is I think quite plain that Engineer Kidd's estimate for timbering the two entries under the spur covers the entire cost and not merely the extra work and material required on account of the construction of the spur. This view of the case possibly explains, at least to some extent, the wide disparity between the estimate of the engineer and that of Mr. Gouge. Even if Mr. Kidd's estimate is on this, and possibly on other grounds, somewhat excessive, consideration must be given to the requirements of safety and the general inconvenience in operation caused to the Hy Grade Coal Company by the construction of the spur. I think, therefore, that the two first-mentioned items should be allowed. The third item, namely $1,140, for chocking the two entries under the spur with rock, when they are no longer required, is also reasonable and should be allowed. In view of the element of safety involved, there should, however, be some assurance on the part of the Hy Grade Coal Company that these monies will be actually expended for the definite purposes for which they are allowed, and for the same reason, it should be the duty of the railway company to satisfy itself on this point.

I am of opinion that the total of the sums as above set forth, namely three thousand, eight hundred and ninety-five dollars and thirty-five cents ($3,895.35), should be the full amount of compensation to be paid to the Hy Grade Coal Company, Limited, by the Canadian National Railways, under the provisions of section 197 of the Railway Act, 1919, on account of the construction of the spur line of railway for the Newcastle Junior Mining Company, Limited

Re EXCHANGE ON FREIGHT CHARGES IN RESPECT OF INTERNATIONAL TRAFFIC

Judgment, Chief Commissioner Carvell, January 13, 1921, concurred in by Assistant Chief Commissioner McLean, Deputy Chief Commissioner Nantel, and Commissioners Boyce and Rutherford.

About a year ago, complaints were made to this Board, practically altogether by exporters to the United States, complaining of the fact that they had been prevented by the Canadian railway companies from prepaying the freight through to the point of destination in the United States in Canadian money. A hearing was held at Ottawa on the sixteenth of March, 1920, at which practically all exporters were represented, and there it was stated, and with two exceptions admitted, that, before the rate of exchange between the two countries became abnormal, practically all the commodities exported had gone forward collect. The Board held in its judgment, dated March 27 that, under the Railway Act, a Canadian Railway Company could not be compelled to accept prepayment of freight.

Shortly thereafter, the American railways commenced demanding the prepayment of international freight to Canada, the result being that, with very few exceptions, the freight on all international traffic between the two countries was paid in the United States funds, and thereupon the Canadian importers commenced pressing for relief, the same as the exporter had previously done.

At first the exporters demanded the right to prepay the whole rate in Canadian funds, which of course would give them an advantage in that they would be able to pay the American end of the haul in Canadian funds, which were then as now worth less than the American dollar. Shortly thereafter, however, the demand from all classes of business men was that the Canadian end of the haul should be paid in Canadian funds, and, to the ordinary business men, this seems absolutely fair and reasonable. However, when considered as a railway proposition, it was vigorously opposed by the Railway Association and all the railway companies on the ground that shippers both ways would naturally forward their goods by that route the longest possible portion of which would be in Canada. In other words, the American

roads would be short-hauled in practically every international transaction in Canada, excepting possibly exports from the greater portion of the maritime provinces, and, while this would be good business from the standpoint of the Canadian railways, yet it was argued, and I am convinced correctly argued, that, in a very short time, it would result in complete disruption of the whole international rate structure which has been laboriously built up during the past thirty-five or forty years.

However, on the 21st of December last, the railway companies were told that a solution of some kind must be found for the difficulty, and one which would in the end practically amount to paying the Canadian end of the haul in Canadian funds. On the 6th day of January instant, at a conference with representatives of the railway companies of Canada, a proposal was made which was accepted in principle, but further time was taken in which to perfect the details, and, finally, on the 11th day of January, a written statement was furnished this Board by the Railway Association of Canada, which was the result of extended negotiations between that body and this Board, reading as follows:—

"EXCHANGE SURCHARGE ON INTERNATIONAL SHIPMENTS, OTHER THAN COAL AND COKE, TO BE ADDED TO THE TOTAL THROUGH CHARGES, INCLUDING ADVANCED CHARGES PAYABLE TO UNITED STATES CARRIERS, WHEN PAYABLE AND COLLECTED IN CANADA."

"1. A surcharge of sixty per cent of the rate of exchange arrived at in accordance with the provisions of this tariff will be added to the total through charges, including advance charges payable to United States carriers, on all shipments between Canada and the United States, in both directions, when such charges are payable and collected in Canada. When all charges are paid at United States points in United States funds this surcharge will not be added.

"2. On shipments from Canada the surcharge must be collected at the rate governing on the date of the bill of lading; and on shipments to Canada at the rate governing on the date of advice note of arrival at the Canadian destination. Such surcharge will accrue entirely to the Canadian carrier.

"3. Telegraphic advice will be sent to railway agents in Canada on the last day of each month specifying the surcharge to be collected from the first to the fourteenth (inclusive) of the following month; and on the fourteenth day of each month specifying the surcharge to be collected from the fifteenth to the last day (inclusive) of such month. Agents must file such telegraphic advise with this tariff. The surcharge must be shown as a separate item on all bills of lading and waybills for outbound shipments and on all freight expense bills.

"*Exception.*—This tariff does not apply to export and import traffic from or to points of origin or destination in the United States via Canadian ports, on which all charges must be collected in United States currency or its equivalent.

"NOTE.—In arriving at the surcharge the rate of exchange quoted for New York funds by the Bank of Montreal at noon in Montreal on the last day of each month will govern from the first to the fourteenth (inclusive) of the following month; similarly, such quotation at noon on the fourteenth will govern from the fifteenth to the last day (inclusive) of such month. Should the governing date fall on a Sunday or Canadian or United States legal holiday, the noon quotation of the preceding day will govern.

"In determining the surcharge, fractions less than one-half will be disregarded and fractions of one-half or over will be counted as one per cent.

"This tariff is effective January 22, 1921. The rate of exchange quoted for New York funds by the Bank of Montreal at noon in Montreal on January 21 will govern from the 22nd to the 31st, inclusive."

This proposal was supported and agreed to by representatives of the following railways: Canadian National, Grand Trunk, Canadian Pacific, Michigan Central, New York Central, Rutland, Toronto, Hamilton and Buffalo, Essex Terminal, Pere Marquette, Delaware and Hudson, and the Railway Association of Canada. It was also accepted by the representative of the Quebec, Montreal and Southern, who, however, protested that the arrangement would be extremely unfair to that road.

We also held conferences with representatives of the important Boards of Trade and trade organizations generally, all of whom considered the scheme the best that had yet been offered, although claiming that certain communities would be more favourably affected than others.

After considerable discussion, the proposal was agreed to by the Board. The principal discussion between the Board and the railway companies was as to what would be a fair surcharge to be added to the rate which would place the Canadian railway in a position to receive payment of the whole charge in Canadian funds and pay the American share of their American connections in American funds.

This arrangement will also apply to the American roads, who, while not compelled to send their freight forward collect, we are assured will do so because they will hold the Canadian railways responsible to pay them their share in American funds, and arrangements are now being made by the Canadian roads to have these goods forwarded collect, thus giving both the Canadian importer and exporter the right to pay the whole freight rate on international business in Canadian funds.

It is quite evident that the Canadian road which has a short Canadian haul and a long American one is at a disadvantage, whereas the road which possesses a long Canadian haul as compared with the short American one has a distinct advantage in this arrangement, but it was frankly admitted both by the railway companies and the Board that whatever was done must be on the broad principle of averages, and, therefore, some roads as well as communities must be benefited to a greater extent than others.

Without going into details, which I think are unnecessary, we found, after a very careful consideration of the total international traffic carried by the railway companies of Canada, based upon their respective divisions with American connections, that the traffic on the Canadian Pacific would be more nearly divided equally between Canadian and American hauls respectively than any other of the large systems, and their figures showed the American end to be somewhat larger than the Canadian. The Canadian National figures showed a slightly increased Canadian haul on an average over the Canadian Pacific, but the Grand Trunk showed quite a large percentage of the American haul greater than the Canadian. Putting together the business of the Canadian National and the Grand Trunk systems, they average practically the same as the Canadian Pacific business. When we come, however, to roads such as the Quebec, Montreal and Southern and the Toronto, Hamilton and Buffalo, there we find that from two-thirds to three-quarters of their international business is on the United States end, and the Toronto, Hamilton and Buffalo showing about 72 per cent, and, of course, as they will only receive a surcharge of 60 per cent, they will lose to quite an extent on all international traffic. However, as before stated, I have concluded that the principle of average is the only feasible method under present conditions by which this difficult problem can be solved at the present time, and, therefore, think that a surcharge of 60 per cent of the total rate of exchange is the figure which will on an average place the Canadian roads in a position to pay the American connections in American funds and yet leave them Canadian funds for their own portion of the haul.

It will be observed that this arrangement does not apply to the rate on coke and coal, the reason being that these commodities move practically altogether on local rates breaking at the border, and, as the Canadian importers have since May last been allowed to pay the Canadian end of this business in Canadian funds, no change is necessary.

Neither does it apply to export and import traffic from or to points of origin or destination in the United States via Canadian ports, which still must be paid in United States currency, because, were this allowed to be paid in Canadian funds, it would practically mean that goods originating in the United States, exported through Canadian ports, would pay a less freight rate than if exported from American ports. This would be discriminatory as against the American railroads and would break up parity of export rates between Canadian and United States ports now in existence. This, in my judgment, would be a positive disadvantage to the business of the country as a whole.

It was contended by some interests at our conferences that the rate of exchange should be fixed weekly rather than fortnightly, but there again it is a question of average. The railways may have a slight advantage over one set of circumstances and the reverse may be the case under others; but, if it is found in working out the scheme that injustice results on account of the fortnightly arrangements, the Board reserves to itself the right to change it any time it may think proper.

While these arrangements are not perfect, yet, in my opinion, it is the best solution of the problem so far advanced by any person, and I feel sure it will grant a great measure of relief to the business interests of Canada.

The companies will be required to make monthly returns to this Board showing the amount of surcharge collected, and, if it is found that any change is necessary, either as to dates of arranging the same or the percentage upon which the whole scheme is based, the Board will make whatever corrections may to them seem necessary.

An order should, therefore, issue in the terms of the above proposal, the railway companies to have the privilege of filing the same as a tariff, effective on the 22nd day of January instant.

CITY OF ST. THOMAS *v.* M.C.R.R. CO., *re* SUBWAY

Judgment. Assistant Chief Commissioner McLean, January 24, 1921, concurred in by the Chief Commissioner, Deputy Chief Commissioner, and Commissioners Boyce and Rutherford.

The above application was heard at St. Thomas before the late Commissioner Goodeve and myself. The matter had been considered, but a concluded opinion had not been arrived at at the time of his death. I am, therefore, presenting the matter to the Board as a report made under section 12, subsection 1 (*b*) of the Railway Act

The application is made by the city of St. Thomas for an order directing the Michigan Central Railway Company to provide a subway or other means for its employees to cross the tracks of the said company between Talbot street and the shops and roundhouse of the company in getting to and returning from their work. In the application the reasons are set out as follows:—

> "Application is hereby made to the Board by the Corporation of the city of St. Thomas for an order directing the Michigan Central Railroad Company to construct and provide a subway or other means for its employees to cross the tracks of the said company, between Talbot street and the shops and roundhouse of the company in the city of St. Thomas, in going to and returning from their work.
>
> "The grounds for the making of this application are that large numbers of the employees of the company are daily compelled in going to and returning from their work at the shops and roundhouse of the company, to cross both main line tracks as well as several sidings used for the moving of trains and for switching purposes, and in doing so they are in danger of losing their lives

or of sustaining bodily injury. The lands of the said company referred to in this application lie south of Talbot street and between Ross street and First avenue, a distance of about 3,400 feet, and there is no street or highway or other means of crossing such tracks between Ross street and First avenue, as the lands of the said company between the above points are occupied by the main line tracks, sidings, shops and roundhouse of the company, and large numbers of such employees live north of Talbot street, and the shops and roundhouse are south of the tracks."

Counsel for the city set out that the matter had been brought to the attention of the City Council from time to time by the employees of the Michigan Central.

About one-third of the city from east to west between First avenue and Ross street is occupied by the tracks, yards or shops of the Michigan Central. These streets are some 3,380 feet apart. The yards of the Michigan Central are bounded on the north by Talbot street, on the east by First avenue, on the south by Wellington street and Jonas street and on the west by Ross street. There are subway crossings on First avenue and Ross street, but there are no crossings between. It is stated that a large number of the employees of the railway live on the north side of Talbot street, north of the Michigan Central, and also the eastern part of the city. It is contended that the men, to get to the shops and roundhouse, have to make their way across the tracks and over and through trains. From the north side, those having to get to the shops or roundhouse, may go either east around by First avenue or west by Ross street, then three blocks down to Wellington street and then back. It is stated by counsel for the city of St. Thomas that this involves a detour of about a mile.

In regard to the time and distance elements the submission of the railway was that there were three ways by which the men could cross the tracks in complete security in reasonable time, viz: (*a*) by going south from Talbot street on Ross street, under the subway constructed in 1908 to Jonas street, then east on Jonas street to the railway's property and thence by pathway across the railway's property to the shops. Accoridng to the evidence of Mr. E. R. Webb, this pathway is between tracks in a part of the yard not used for the making up of trains, but for repair work. The distance by this route from the corner of Ross and Talbot streets to the shops is given at 2,387 feet, and it is estimated that this could be walked in seven minutes. (*b*) By going the same route as in (*a*) but keeping to highways the whole way, by going south on Ross street to Wellington street, then east on Wellington street to the shops; this route being longer by 564 feet. The distance is given as 2,954 feet, and the time taken to walk it is placed at 8¾ minutes. (*c*) By proceeding east on Wellington street to First avenue via First avenue to Talbot street, distance 3,369 feet; the time is given at 11½ minutes.

Under cross-examination, Mr. Donohue, Division Superintendent of the railway, stated that the men were forbidden to cross the yards, but that notwithstanding this they did cross at the lower end of the yard, instead of going through the Ross street subway, and then came up around the passenger trains and crossed through west of the yard. He stated that from Jonas street, which runs east from Ross street, there is a path alongside the tracks leading to the shops. He stated that in order to get to the roundhouse in coming from Jonas street the men would have to cross the tracks up by the shops, and not in the yard where the trains are moving about. Similar evidence was given by Mr. E. R. Webb, Division Master Mechanic.

While application was made for a subway, intimation was given by applicant at the hearing that an overhead bridge would be satisfactory. The application as launched deals with the situation affecting men coming from north of Talbot street. There is, as stated by counsel for the applicant at the hearing, very little difficulty at the south end of the yards.

The railway submitted a statement setting out the distribution of their employees according to the location of their residences, which, as analysed, showed 35 per cent of them living north of Talbot street. The statement is as follows:—

"In considering what employees would use the pedestrian subway if constructed, the domiciles of the employees must be considered. It should also be borne in mind that there is a subway at the extreme east of the yard (First avenue) and a subway at the extreme west (Ross street). It is obvious, therefore, that all employees living north of the station yards, and who live west of Ross street or east of First avenue are just as close to their work by using the subways on these streets as they would be by using the proposed pedestrian subway. Evidence was given by division master mechanic, E. R. Webb, and statements filed showing the total number of men employed, and sub-dividing these by showing those living north and those living south of the tracks. This statement shows:—

	North	South	Total
Car shop	57	126	183
Locomotive shop	224	426	650
Store house	22	19	41
Building department	3	3	6
	306	574	880

"From this you will see that there are about 880 men employed and of this number 306, or 35 per cent, live north of the railroad.

"Of the three hundred and six men (306) living north of the tracks, one hundred and ninety-six (196) live north of Talbot street, between Flora (extension of Ross street) and First avenue. These would be closer their work by a few minutes if proposed subway be built. The balance, ninety-eight (98), live west of Ross street, and the route to their work is just as short via Ross street subway as by suggested subway. Six (6) of the men get to their homes via Alexandria avenue, which is 136 feet west of First avenue. These men are approximately as close to their work via First avenue subway as by the proposed subway. Adding forty-three (43) locomotive engineers and firemen, the proposed subway would benefit a total of two hundred and thirty-nine (239) men."

Exception was taken by the railway to the jurisdiction of the Board. The position by the railway, as developed, was that the matter of added convenience as a result of the construction asked for was insufficient to give jurisdiction; that there must be a question of safety involved as well. The only case in which this point has been considered was *consideration of the matter of requiring improved conditions in the C.P.R. yards at Winnipeg in the matter of employees going to and from their work. File 18303.* This was referred to at the present hearing.

In the Winnipeg case the question of jurisdiction was queried by Mr. Curle for the railway in the following language:—

"If an application of this kind is cognizable by the Board, which we submit it is not, of course, we are willing to pay all deference to any suggestions the Board would make about it; but it can only be in reference to the question of safety. I take it the Board will not take cognizance of any question of convenience to employees getting to the roundhouse."

In dealing with this matter, Chief Commissioner Maybee asked: "Why does not it fall within section 30, subsection (*g*) of the Railway Act, which reads: The Board may make orders and regulations with respect to the rolling stock, apparatus, cattle guards, appliances, signals, methods, devices, structures and works to be used upon

the railway so as to provide means for the due protection of property, the employees of the railway company, and the public?" This provision is set out in subsection (g) of section 287 of the Railway Act of 1919, which reads:—

> "(g) with respect to the rolling stock, apparatus, cattle guards, appliances, signals, methods, devices, structures and works, *including light, heat and power lines or wires,* to be used upon the railway, so as to provide means for the due protection of property, the employees of the company, and the public *and all persons travelling on His Majesty's service.*"

The scope differs somewhat, this being indicated by the portions italicized; but it will be noted that the provision as to the safety of the employees is the same. Counsel for the Canadian Pacific Railway in the Winnipeg case admitted that the section quoted by Chief Commissioner Maybee was, if there was any jurisdiction, the one applicable, and the contention that there was jurisdiction was upheld by the Chief Commissioner.

The question of safety, in respect to the justification for intervention by the Board, was referred to at various points, in the Winnipeg case. The Chief Commissioner said, at p. 3425: "These people cannot go back and forward to their work without some safe means of doing so." At pp. 3428 and 3429 the following language was used by him: "You cannot extend that at the expense of the safety of the people who have to get to and from the roundhouse. They have to have a mode of getting in and out without subjecting themselves to the dangers they have suffered in the past. It is a marvel that there have not been dozens killed already."

While counsel for the applicant in the present case adduced, as has been indicated, material bearing on the element of convenience, he frankly recognised danger as the main question, saying in this connection, the most important point is in the danger."

It was alleged that at one time a crossing had been maintained by the Michigan Central, south over its tracks from Talbot street to the shops, and it is stated that "of late years that has been abandoned and the men have been compelled to make their way as best they could across the tracks, and over and through trains." The railway's rejoinder regarding the status of this crossing, as set out in written answer on file is:—

> "Mr. Doherty in his argument stated that there had at one time existed a surface crossing at or near the point where the subway is asked for. Such a crossing did exist prior to 1908, when the construction of the Ross street subway was ordered. It was, however, a private crossing used for the purpose of getting material across the yard from the company's freight sheds to the shops, and as an emergency crossing to be used in the event of fire at the shops, and it was never open to the public and was strictly a private one, and the employees were forbidden to use it. This was removed when the Ross subway was built in 1908."

Statements have been filed by both parties concerning the number of accidents which have taken place. It is contended by the railway that on any tabulation of accidents the figures should run from 1908 when the Ross street subway was opened. From the evidence in the application for a subway at Ross street (hearing of October 14, 1904, Evid., Vol. 11), it appears that at the date of the application there were gates on Ross street, and that on account of the volume of shunting the gates were down so much as to impede travel over this crossing.

That there is travel across the tracks south of Talbot street is admitted. That accidents have taken place is unfortunately true. The figures of accidents submitted by counsel for the applicant show some eight accidents which have taken place in the

last twenty-five years. It is stated this is a partial list. The railway sets out from its analysis that four of these accidents occurred while the men were on duty in the yards not crossing to their work; that in two cases there were accidents as a result of crawling between cars; in one instance an accident from a man jumping from an engine in freight shed in front of an engine backing up in the opposite direction, and one case they were unable to check. The list of accidents which the railway submits as happening from 1908 covers four cases, three of which are attributable to crossing the yards from Talbot street.

While questions of convenience in point of time taken in coming to and going from the shops and roundhouse were introduced, it is admitted that this is not the factor on which the Board can decide. Much as accidents are to be deplored, the accidents in question are not the determining factor. The question is the cause. If those employed in the shops and roundhouses create a dangerous situation for themselves by crossing the tracks of the company instead of taking an available detour involving some extra time, this does not of itself create a situation where the Board has power to intervene under the Railway Act. The sole question the Board can deal with is—is there an unsafe condition which the men are compelled to face? Are they compelled to cross the yards south from Talbot street? It was so asserted. The Board was asked to so infer from the details furnished as to accidents. But no evidence was adduced to show that men living north of Talbot street were compelled to cross the tracks. No evidence was presented by men actually working in the yards showing the alleged necessity of their crossing the tracks, or setting out the unescapable dangers of the existing situation, or showing why the detours suggested were not feasible and reasonable.

On the present record the application has not been justified.

SILVER STANDARD MINING COMPANY OF NEW HAZELTON, B.C., *v.* G.T.P.R. *re* OVERCHARGE ON SHIPMENT ZINC CONCENTRATES

Judgment, Chief Commissioner Carvell, January 26, 1921, concurred in by the Assistant Chief Commissioner.

At the hearing of this case in Edmonton, in November, 1919, I was very much impressed with the justice of the application. It seems that nine cars of ore were shipped from New Hazelton, B.C., by the Grand Trunk Pacific to Oklahoma, and the complainant was informed by the agent at New Hazelton, and this was confirmed by the general agent at Prince Rupert, that the rate of $17.60 a ton should apply in cases where the shipper released any value in addition to $50 per ton, and where the commodity was worth more than $50 a higher rate prevailed. The nine cars of ore turned out to be worth about $70 per ton, and the rate charged and collected by the terminal carrier in Oklahoma amounted to $4,000 more than the shipper had been led to believe the rate would be.

At the hearing, I took the ground very strongly that the railway company had made a contract and should stand by it, but was discussing it always from the standpoint that the shipping documents carried a notation that the ore was worth only $50 per ton, or that they released everything down to that point. This question was asked particularly by the Assistant Chief Commissioner at p. 12389 of the Board's Notes of Hearing, as follows;—

> "THE ASSISTANT CHIEF COMMISSIONER: All your shipping documents carry a notation that the concentrates moved on a released valuation of $50.
>
> "Mr. NEWELL: Yes. They released down to $50 the same as they did with the lead, which the company has adjusted.....".

Again, at p. 12390:—

"THE ASSISTANT CHIEF COMMISSIONER: But the whole liability is limited to $50, no matter what happens.

"Mr. ROSEVEAR: In some cases on the bill of lading the words 'value $50 per ton' were placed; in others, released value of $50 per ton. But the terminal carrier claimed that the result of the analysis after the metals were extracted should be the basis."

It now turns out that on five of the way-bills the notation had been put on, and on these five the terminal carrier has refunded the money to the Grand Trunk Pacific, who have been able to settle with the complainant; but on the other four, no doubt by mistake, the notation does not appear. I am, therefore, of the opinion that the omission of the valuation on the bills of lading for the four carloads still in dispute, inadvertently though it might have been, seems to me to have made the shipper liable for such higher rates legally chargeable, as the result of assay at the Sand Springs smelter showed values above $50 per ton.

In re EXPRESS TOLLS

Judgment, Assistant Chief Commissioner McLean, February 2, 1921, concurred in by Commissioner Boyce.

It has been urged that the rate basis of one and a half times the standard freight rate for transportation service, plus sixty cents per hundred pounds set out in the Express Rate Judgment of 1919, was simply in so far as the one and and a half times the standard freight rate was concerned, a finding on particular facts and not a setting out of a continuing basis.

I do not so understand the judgment; I read it as laying down a continuing basis, unless and until a change of conditions such as is not before us at present, has developed.

In the course of the hearing in the present case, the Chief Commissioner intimated that whatever action was taken would be temporary in its nature; as a result of the basis of one and a half times the standard freight rate, a change in the freight rate up or down affects this factor of the rate.

As a result of freight rate conditions, the increases allowed on freight rates enter into the railway transportation factor of the express rate above set forth. When the freight rate decreases, the decrease, of necessity, reduced the railway transportation factor.

The non-cartage differential was introduced as an attempt to equalize, in terms of charge, in so far as possible, conditions at a point where a cartage service was not performed with conditions at a point where such service was performed. It was pointed out in the Express Judgment of 1919 that the distinction made would have to be an arbitrary one. It was set out that cartage costs vary, the cost per shipment at Toronto being referred to as amounting to some fourteen cents on the average. The judgment continued;—

"My first idea was to make an arbitrary reduction from the rates of fifteen cents per shipment, where but one wagon service was performed and of thirty cents where no wagon service was performed. This, however, would be entirely unworkable. It would mean taking the first eastern block with a per one hundred pound rate of 80 cents, that between any two points where no wagon service was maintained, shipments up to four pounds in weight would be carried without any remuneration whatever, as the thirty cent minimum is reached with the four-pound lot. Under the same scale, if this plan were adopted, shipments up to fourteen pounds between such points would be

carried for the ridiculous remuneration of five cents. A shipment of forty pounds would return but twenty cents. The proper relationship to the freight charge would be destroyed."

It being recognized as impossible to deduct from each shipment the average cartage cost, what was done was to deduct from the head line rate, an assumed average cartage cost, The effect was carried down into the graduate tables as indicated in the examples contained both in the Judgment of 1919 and the reasons for Judgment of the Chief Commissioner in the present application.

As indicated, the intention was to aid to the limited extent possible in an equalization, by reduction in charge at a point where cartage was not performed. It was the intention that this should enure to the advantage of the consignor or the consignee, or both, according as there was or was not cartage service, either at the place of origin or destination, or both.

The question of importance is, how has it worked out? On the return, the details of which are set out in the reasons for judgment of the Chief Commissioner, it appears, that it has affected a considerable decrease in express revenues. That was to be expected. But it further appears that to a very large extent it has simply been in case of distributive costs which various firms as an incident of their businesses had voluntarily assumed. That is to say, the price as quoted by the firm carried the shipment to the consignee without any payment of express charges to him. The shipper, having antecedent to the introduction of the non-cartage differential, voluntarily assumed this burden as one of the incidents of the cost of carrying on his business was in the position, after this differential was established, of being able to reduce his distributive costs by the amount which the express company had to bear.

It would appear that while the revenue of the express company was being reduced the general consumer was not obtaining the advantage which had been anticipated. I participated in the decision establishing the non-cartage differential. I am forced, after careful consideration, to conclude that the Board would not be justified in directing its continuance.

In the application dealt with in 1919 the express companies desired to eliminate commodity rates except on a carload basis. This would have resulted in exceedingly heavy increases. The judgment of the Board used the following language:—

> "I would dismiss the companies' application in so far as the commodity rates are concerned, entirely, subject to the right of the companies should it be found impossible for them to make both ends meet, to renew the application."

The application now before the Board as to commodity and other rates is for a general 40 per cent increase—an increase in the case of commodity rates much less than was involved in the application of 1919. I agree in the distribution of rates as set out in the reasons for judgment by the Chief Commissioner. It takes into consideration differences in the ability of the articles concerned to bear the increase, the heavier increase being put on the more highly valued articles; and in so doing it lessens the burden, as far as is feasible, on articles of food. At the same time, it assists in readjusting the spread between first and second class which was a matter of complaint.

It may be noted that what was proposed in regard to the increase of commodity rates in 1919, as above referred to, amounted in various instances to an increase of 100 per cent and more.

The computations as to cost of carriage on the basis of 34.7 cents per express car mile are set out in the reasons for judgment by the Chief Commissioner. If the figure of 30.62 is taken, as referred to in the foregoing reasons, as being the figure which was advanced by Mr. Geary as showing actual cost per car mile, then the result

on the mileage from Mulgrave to Montreal is as follows: Express car mile cost, $272.51; freight charges on a basis of 30,000 pounds, $180. That is to say on a 50 per cent basis, the express company would receive $136 as against a freight charge of $180.

In the decision of the Board in the application of the *Edmonton, Dunvegan and British Columbia Railway,* the Board on September 8, 1920, used the following language:—

> "The weighty responsibilities imposed upon the Board by Parliament compel the conclusion that rates inadequately remunerative are not only detrimental to the railway concerned, but in a wider and more important phase are detrimental to the public served by the railway, because if the rates be not adequately remunerative for the service the efficiency will tend to deteriorate, and there will be progressive difficulty in obtaining those adequate facilities which are essential if traffic is to move."

The foregoing comment is pertinent here. It must also be recognized that within the limits of the Board's powers, as set out in the Railway Act, the only source whence adequacy of remuneration may be obtained is by payment from those using the service.

I agree in the conclusions and rate adjustments provided for in the reasons for judgment of the Chief Commissioner.

Re Rates on freight going in and out of Simcoe, Ont.

Judgment, Commissioner Boyce, February 5, 1921, concurred in by the Assistant Chief Commissioner.

This application was heard before the late Mr. Commissioner Goodeve and myself at the sittings in Hamilton, and judgment was reserved. Shortly thereafter, and before the necessary enquiries could be made for the purposes of the judgment, my colleague was called by death.

The Chief Traffic Officer of the Board has made an exhaustive examination into all the questions raised, and his report thereupon deals with and disposes of all matters in controversy in this case.

I would adopt the report of Mr. Hardwell, the Chief Traffic Officer, attached hereto, as the judgment of the Board, and in accordance with his findings and conclusions so adopted as the judgment of this Board, order should go dismissing the complaint.

Board of Railway Commissioners for Canada—Traffic Department,
Ottawa, January 28, 1921.

TD 13940

Town of Simcoe, Ont.—"Town" Tariffs.

File 29982

Heard at Hamilton, October 7, 1920.

REPORT OF CHIEF TRAFFIC OFFICER

This is an application that the town of Simcoe be given the benefit of the so-called "town" tariff class rates scale, lower, as a whole, than the standard tariff; that is to say, the Ontario distributing scale referred to in the Order of the Board No. 3258, July 6, 1907 (International and Toronto Board of Trade Rates Case), as Schedule "A," which, subject to the various horizontal increases since granted, is still in force.

That order did not add to or subtract from the list of distributing points then existent; it only remodelled the rate schedule itself so as to remove anomalies complained against.

It is true that other centres have since been given special class tariffs from time to time, but while "special," these are not on the "town" tariff or Schedule "A" basis. For illustration, take Parry Sound, one of these added centres. Toronto is one of the originals, and as Schedule "A" operates in both directions the rates from Toronto to Parry Sound are applied reversely from Parry Sound to Toronto as the starting point for the new tariff, and between Parry Sound and the intermediate stations the rates are proportionately scaled downward without regard to Schedule "A." In other words, without knowing the precise basis, if there really is one, these new tariffs may be regarded as a compromise between Schedule "A" and the Standard Maximum Tariff.

The following are the Schedule "A" distributing points west of and including Toronto:—

Aurora,	Ingersoll,	St. Catharines,
Barrie,	Kitchener,	St. Marys,
*Brantford,	*London,	St. Thomas,
Bridgeburg,	Meaford,	*Sarnia,
Chatham	Merritton,	Stratford,
Collingwood,	Midland,	Thorold,
Depot Harbour,	Newmarket,	*Toronto terminal group,
Doon	Niagara Falls,	Walkerville,
Dundas,	Orillia,	Waterloo,
Elora,	Owen Sound,	Welland,
Fergus,	*Paris,	Wiarton,
*Galt,	Petrolia,	Windsor,
*Guelph,	Point Edward,	Wingham,
*Hamilton,	Port Dalhousie,	Woodstock.
Hespeler,	Preston,	

There can be no question that these so-called "town" tariffs discriminate in favour of the centres which have them, and without a doubt they govern by far the greater bulk of the higher classes of freight moving within Ontario. They had their origin in the competition between the Grand Trunk and the Great Western of former days. So far back as 1874 the only places common to the Grand Trunk and Great Western which were favoured with special distributing tariffs were those I have marked with an asterisk in the above list.

The strength of the Grand Trunk's objection to the application lies in the fact—or so it seems to me—that the real "town" tariff points are the same now as they were at the time of the International Rates Case, and it may be assumed with some certainty that an addition now of Simcoe, or any other place having at least equal claim, would open the door to other similar applications.

Dominion Canners have a plant at Delhi. Given the "town" scale at Simcoe, a later application to include Delhi might not illogically be expected. Mr. Watson stated that Tillsonburg gave his company a greater tonnage than Simcoe. Tillsonburg is not a "town" tariff point, but the lower basis could not well be denied if it were given Simcoe. These places are in the same Grand Trunk section as Simcoe.

The discrimination might, of course, be rectified by abolishing the "town" tariffs, as such, in favour of a uniform class tariff everywhere within each territory of the various scales. There might be three ways of doing this: by raising the distributing scale to the level of the Standard, a step which would undoubtedly be strenuously opposed by the manufacturing and jobbing interests; or by making the distributing scale the Standard, thus reducing what is now the Standard; or by a compromise between the two. Clearly, however, a system that in a lesser degree has been established for over half a century would demand very careful consideration.

It should be understood that the application of the town of Simcoe is by no means so far reaching of itself as might appear on its face. In the first place, the "town" tariff and the Standard are identical up to 35 miles. Secondly, to and from all points east of Toronto, Simcoe is already on the same footing as all other points west of Toronto under the grouping system outlined in the International Rates Case. This was admitted by applicants. Further, since the rates of the "town" tariffs apply in both directions, that is to say, to as well as from the distributing centres, it follows that Simcoe has the advantage of those rates to all the points west of and including Toronto enumerated in the list given above; also, under the long and short haul principle, to directly intermediate stations not in the list until the standard rates thereto become the lower. For example: the 1st class rate from Simcoe to Barrie, which has a "town" tariff, is 66 cents. The three next intermediate points are Thornton, Cookstown, and Beeton, which are not "town" tariff points. The standard rate to Beeton is 70 cents, and to Cookstown and Thornton 73½ cents, but they get the benefit of the 66-cent Barrie rate.

The tariff is plain on this point, reading as follows:—

> "Rates to and from Intermediate Points: Shipments between points on the G.T.R. System . . . not specified herein will be charged standard mileage rates . . . subject to rates shown (herein) as maxima between stations directly intermediate."

Mr. Caldwell's exhibit No. 2 gives other examples. Thus, the standard 1st class rate from Simcoe to Forest is 73½ cents (distance 113 miles, not 110 as stated), but the actual rate is that of the Sarnia "town" tariff, viz., 63 cents. The standard rate to Belle River is 77½ cents, but the rate that would, or should, be paid is that to Windsor, viz., 70 cents.

The only additional advantage that Simcoe would secure, if its application were granted, would be the substitution of the "town" scale for the standard tariff to and from other points west of Toronto over 35 miles distant which do not fall within this arrangement.

It is my opinion that on the eve of a general inquiry into the entire rate structure of the Dominion the time is not favourable for the introduction of any complications by interference with an arrangement that has obtained for so many years.

Respectfully submitted,

J. HARDWELL,
Chief Traffic Officer.

Re EQUIPMENT OF RAILWAYS WITH HART TYPE OF WOODEN PACKING FOR FROGS, WING RAILS, GUARD RAILS, AND SWITCHES

Judgment, Chief Commissioner Carvell, February 15, 1921, concurred in by Commissioner Rutherford.

So far as I can learn, this case originated by a letter from Mr. Frank Lee to the Chief Engineer of this Board, dated the 2nd day of April, 1919, suggesting that the use of the "Hart Blocking" at frogs and guard rails be made permissive.

Considerable correspondence took place and interviews between the Chief Engineer and representatives of railway men interested, and finally it was thought advisable that a public hearing be held at which all parties could be heard.

This took place in Ottawa on the 1st day of February instant, at which the Canadian Pacific Railway Company, the New York Central Railroad Company, the Canadian National Railways, and the Michigan Central Railroad Company were

It was admitted by all parties and strongly asserted by our own technical officials represented as well as the Brotherhood of Locomotive Firemen and Enginemen.
that the Hart type of packing for frogs would be an advantage in many cases over that at present in use, and, therefore, while I do not feel we should make it compulsory, I think its use should be approved by this Board upon all railways under our control.

Re RATE ON LIQUORS AND SUPPLEMENT 15 TO CANADIAN FREIGHT CLASSIFICATION NO. 16

Judgment, Chief Commissioner Carvell, February 16, 1921, concurred in by Commissioners Boyce and Rutherford

In the month of May last, the Canadian Freight Association filed Supplement No. 14 (now No. 15) to the Canadian Freight Classification No. 16, the substance being that the rate on liquors in l.c.l. quantities should be increased to double first-class, and in car-load lots to third class.

According to the file, conferences were held with interested parties in different portions of Canada. Some objections were raised particularly by certain persons interested in the Ontario native wines industry and the proposal that shipments should be carried at owner's risk of breakage was also objected to. With these exceptions, no objections were made excepting by the Board of License Commissioners for Ontario, who protested not only on their own behalf but on behalf of the province of Alberta.

The case was heard at Ottawa on the 21st of December last, and at the hearing statements were made by the Canadian Freight Association and representatives of the Grand Trunk, Canadian Pacific and Canadian National Railways, all alleging that the loss by pilfering and the cost of protecting the goods in transit amounted in the case of the C. N. R. to more than the total freight received.

Mr. Birmingham, who appeared for the License Commissioners of Ontario, admitted that at one time during negotiations, upon certain conditions, he had agreed to the increased classification, but claimed that was before the increase granted by order of the Board No. 308, and now contended that the increase of 40 per cent up to the end of December and 35 per cent thereafter should be sufficient to compensate the companies for any loss.

With this contention I am unable to agree. The increases granted by Order No. 308 were intended to give to the railway companies just and reasonable rates for carrying on the general business of the country, and, if an abnormal condition has arisen entailing special loss and damage in the carrying of any special commodity, then the general increase granted was not intended to take care of such an abnormal condition. It, therefore, becomes very largely a question of fact.

Mr. Jackson, for the Canadian Pacific Railway Company, stated that, for the year 1919, the loss for all three roads, Canadian National, Grand Trunk, and Canadian Pacific, was $112,500, that in 1920 the loss for the Canadian Pacific alone amounted to $127,000, and the additional expense in policing the traffic was $123,000, making a total loss for that railway of $250,000, which he stated to be 16 per cent of their total loss and damage. He stated he had no figures to show how much liquor had been handled during the past year, and, therefore, did not know what the revenue from this particular commodity had been.

The Grand Trunk Railway Company alleged that their damage was equally great. Mr. Bowker stated that, since the middle of 1920, the cost of increasing their police staff for protecting liquor would amount to $144,000 a year, and the evidence was general from all the railways as to losses and increase in pilfering, even with the increased protection already referred to. From figures filed with the Board since the hearing by the Canadian Pacific Railway Company showing the claims filed against that company in Winnipeg, Calgary and Vancouver alone during the month of December, it is clear the condition is getting much worse instead of better. In fact, in some cases, the claims amount to more than the total freight earnings, and, for the three places above mentioned, the total claims filed would average more than 50 per cent of the total earnings. It is impossible to account for such a condition of affairs, and yet, without a doubt, it exists, notwithstanding the efforts being put forward by the railway companies to counteract it.

As the liquor business will in the future be handled very largely by the provinces, some of whom are already making very handsome profits out of the business and the remainder of whom probably expect to do so, I am of the opinion that some further protection can be given the transportation companies without increasing the cost to the consumer and yet leave a very handsome profit to the public bodies who are handling the traffic.

For these reasons, I think the application should be granted, with the reservation, however, that there shall be no increase on native Ontario wines and owner's risk of breakages shall be eliminated.

VALUATION OF SETTLERS' LIVE STOCK

Judgment, Commissioner Rutherford, March 5, 1921, concurred in by Chief Commissioner and Deputy Chief Commissioner.

This case was heard at Calgary, Alberta, on October 20, 1920, before the Chief Commissioner and the Deputy Chief Commissioner, judgment being reserved.

Having gone very carefully into the questions raised and the evidence adduced at the hearing, I am of opinion that the report of the Chief Traffic Officer, attached hereto, should be adopted as the judgment of the Board, and that order should go in accordance therewith.

November 18, 1920.

TD—9153.1

COMPLAINT OF THE CALGARY LIVE STOCK EXCHANGE

File 28233.8

Valuation of Settlers' Live Stock

Heard at Calgary, October 20, 1920.

REPORT OF CHIEF TRAFFIC OFFICER

This is a complaint that the carriers operating on the western prairies, in connection with the movement of settlers' effects, in carloads, containing live stock, still limit their liability for the animals to the valuations of the old live stock contract, and application is made for the increased valuations of the present contract as approved by the Board's General Order 298, June 2, 1920.

The contract valuations have been twice increased by the Board, the previous advance having been required by the Board's judgment dated July 31, 1914, made effective January 2, 1915.

The three sets of values follow:—

	Old	1915	1920
Horses	$100	$200	$200
Mules	100	100	200
Colts	100	100	100
Cattle	50	80	150
Hogs	10	15	40
Sheep, calves	10	10	20

Settlers' effects, in carloads, including not more than 10 head of live stock, when the shipper signs the carrier's release limiting the value per package of the goods, are classified 6th class in the approved Canadian Freight Classification, and this item of the Classification still retains the old valuations.

The effects of immigrants from the United States are not, however, charged the 6th class rates; they are carried under a special tariff from the border gateways. The rates of this original tariff, subject to a minimum charge of $10 per car, approximated only 25 per cent of the 6th class rates of the standard mileage tariff in effect prior

to the judgment of the Board in the so-called Western Rates Case issued in April, 1914. The companies did not take advantage of the Board's permissive order in the 15 per cent case to increase these rates, but did comply with the requirements of Order in Council P.C. 1863, and have further increased them 35 per cent as permitted by the Board's General Order No. 308 of September 9 last.

The tariffs require a live stock contract to be executed, in addition to the bill of lading for the goods, when the car contains live stock, and the valuations printed in the contract to be altered to correspond with those of the classification as shown above in the "Old" column. The case turns on whether this tariff requirement ought to be cancelled and the valuations of the live stock, contract substituted.

There can be no question that these low special rates from the various ports of entry have been of great assistance in the development of the western country, as they were intended to be. The question is whether they reasonably entitle the railway companies to restrict their liability to a greater extent than if they charged the ordinary tariff rates. The right of the carrier to impose reasonable lawful provisions as some measure of compensation when reduced rates are granted, such as, for example, a greater minimum carload weight than that of the classification as applied to the regular tariff rate on certain commodities. If the western carriers were required to increase their responsibility in connection with the carriage of settlers' effects with live stock, they might not unreasonably, in my estimation, expect an increased rate for the carriage.

The question of similar shipments moving, not from the ports of entry, but between points both in Canada was also brought up. Mr. Reid admitted that the reason for the special rates on incoming shipments from the States, namely, the attraction of new settlers, did not apply in the case of merely migratory movements within Canada; and he mentioned that it was solely in view of encouraging immigration that he spoke.

This particular local traffic has also received special consideration by the railways, and although the rates do not scale so low as those previously referred to, I would apply the same argument. Taking for illustration, the 250 mile rates of the C.P.R. exhibit, the comparison is as follows:—

Horses, straight carloads..	40½	cents	per	100	pounds
Cattle, straight carloads..	37	"	"	100	"
Effects and stock, local..	29	"	"	100	"
Effects and stock, ex. U.S..	13½	"	"	100	"

There is this point, however, that the shipper of a mixed carload of effects and stock would get no further protection if he were willing to pay the full 6th class rate under the classification, instead of the special 29 cent rate, because, as previously mentioned, the classification of settlers' effects still carries the old valuations. The standard 6th class rate for 250 miles is 49½ cents.

The 6th class rates are higher than the live stock rates both in the east and the west. I therefore consider that the live stock valuations in the classification of household goods and settlers' effects ought to be brought up to the level of those of the live stock contract, and particularly so in view of Mr. Kirkpatrick's remark at the close of the hearing that there had been some discussion looking to the abolition of the special rates for the local movements.

Respectfully submitted,

J. HARDWELL,
Chief Traffic Officer.

Re INTERPRETATION OF SECTIONS 306 AND 307 OF THE RAILWAY ACT, 1919. STEAM AND ELECTRIC RAILWAY CROSSINGS

Judgment, Commissioner Boyce, March 7, 1921, concurred in by the Chief Commissioner, Assistant Chief Commissioner, and Commissioner Rutherford.

The question involved arose originally from the following enquiry, addressed by the Chief Operating Officer of the Board, March 8, 1919, to Mr. C. G. Bowker, General Superintendent of the Grand Trunk Railway Company:—

> "Referring to our discussion of Thursday last, *re* Brantford; I forgot to enquire as to why your trains approaching the electric line crossing at Colborne Street and at Market street do not come to a stop before crossing, as required by section 278 of the Act, to which I would direct your attention."

Which was answered as follows:—

> "Replying to yours of March 8. Our trains do not stop at points where they cross electric lines. It has never been understood that section 278 of the Act requires steam lines to stop at electric line crossings. If, however, that is the interpretation placed on it, we are going to have a fine time getting passenger trains through some of our large cities, such as Montreal and London, where we have a number of electric line crossings."

The section (278) is in the old Act. The corresponding section in the Consolidated Railway Act of 1919 is 307. Section 306 (formerly section 277) is also involved in the consideration of the questions raised.

The enquiry was carried to the Canadian Railway War Board by the following query, by the Chief Operating Officer of this Board, on May 6, 1919:—

> "How do you interpret section 278 (now 307) of the Railway Act? Should the steam railway train stop before crossing the electric line at a noninterlocked crossing?"

to which the Railway War Board replied, August 14, 1919:—

> "It is the view of the War Board that in the circumstances described, the steam railway train should stop before passing over the electric line at non-interlocked crossing.

A further enquiry by the Chief Operating Officer of the Board, under date September 4, 1919, addressed to the Canadian Railway War Board, as to whether the War Board has taken any action with the railways to give effect to its interpretation of section 278 (section 307 of the 1919 Act) requiring a steam railway train to stop before passing over an electric line at a non-interlocked crossing, brought the following equivocal and apparently contradictory reply: which, coming from the War Board, (now the Canadian Railway Association) raised an important question upon a matter directly connected with the efficient administration of the provisions of the Railway Act, respecting public safety:—

> "It is our view that no special action of this Board is necessary to give effect to this regulation. We understand, however, that there is a question as to the intent of the Act as regards application of the rule in the case of non-interlocked crossings of a steam railway with a street car line or tramway. It is the view of our General Operating Committee that this is not the intent of the Act."

The effect of this reply, as is indicated in a memorandum of the Chief Operating Officer, is to leave the matter just where it was, so far as the railways contention is concerned, when Mr. Bowker's letter of March 11, 1919, was received.

The practice referred to in that letter, cited above, is being continued. The operation is said to endanger safety, and to be out of conformity to sections 306 and 307 of the Railway Act.

After giving due consideration to the contentions of the railways as to the interpretation of the sections referred to the Board had advised the principal railways to the following effect, viz:—

> "Referring to the above matter, which has been the subject of investigation and consideration by the Board, I am directed to write the interested parties as follows:
>
> "The question appears to be governed by sections 306 and 307 of the Railway Act, 1919 (old sections 277 and 278). It seems quite clear, by section 306, that neither train, nor engine, nor electric car shall make the crossing until the proper signal has been received that the way is clear. The provision applies equally to train, engine, and electric car, and, the context not being inapplicable (but being distinctly applicable) the word "railway" includes street railway and tramway. Section 307 is specific in its terms as to what is required to be done."

The Railway Association contested the views of the Board as expressed in the above quoted letter and asked for a public hearing, and the Board, therefore, called upon the railways in public hearing (Ottawa, May 1, 1920) to submit their views. At the hearing, the Grand Trunk, Canadian Pacific, Canadian National, Michigan Central, and New York Central, were represented, as also the railway employees. The matter stood, after hearing upon the understanding that the Railway Companies would draft, and submit for the consideration of the Board, a suggested clause, which from the railways point of view, would elucidate the Sections of the Act referred to (sections 306 and 307). No action has, however, been taken in this direction, and counsel for the Canadian Pacific Railway Company has written the Board that the solicitors for the various companies were of opinion that no amendment was necessary, and it is, therefore, desirable to dispose of the question raised at the hearing, so far as is within the Board's province to do so.

I see nothing in what was advanced at the hearing, or subsequently, to change the view of the Board upon the questions raised, as shortly expressed in the Board's letter to the railways of October 29, 1919, quoted above. I have examined the case referred to by the Railway Association, in its letter of February 28, 1920 (file 25177), which does not, it seems to me, in any way support the argument contra to the Board's opinion, expressed as above, as to the sections in question. In so far as it is relevant at all, the decision in that case, while in no way interpreting the sections of the old Act, corresponding to the present sections 306 and 307, did emphasize the fact that the principle to be maintained at all these crossings was that of public safety, and the Board's views in this case, sustained that principle in its view of the sections.

It is by section 287 (1) a part of the Board's duty to provide—

> "for the protection of property, and the protection, safety, accommodation and comfort of the public, and of the employees of the company, in the running and operating of trains and the speed thereof, or the use of engines, by the company, or on or in connection with the railway."

and in considering the application of any section, or combination of sections, of the Act, to a particular condition of things, or to a particular operation, it is surely the correct and wholesome principle to give due weight to the conservation of all the provisions of the Act passed in the interests of upholding public safety.

The operation at railway crossings—that is, the crossing of one railway by another—inferior, or superior, is, under the most stringent safeguards, a hazard-

ous one. No stronger evidence of that fact can be furnished than by the recent terrible accident, accompanied by enormous loss of life, at a crossing of the New York Central and Michigan Central railways at Porter, Ind., where, with full interlocker installed, the human element of sight and caution seemed to fail, and two high-speed first class trains crashed together. The intention of the legislation in question is, undoubtedly, in the interests of public safety, and if, as I do not admit or find, there is any language open to a dual construction, or admitting any doubt, as to exactness of the detail of the operation intended to be followed, that construction which will, in its broadest sense, afford the greater protection, will best uphold and support the principle of preserving public safety aimed at by Parliament in enacting the law. In such manner, and with due regard to the paramount interests of public safety involved, the Board has expressed its views.

While, on the argument, the meaning of these sections was subjected to ingenious suggestion, from various points of view, I fail to see that difficulty in reading the sections, one with another, as was attempted to be shown. Under heading "Precautions at railway crossings," these sections appear.

The argument was that under neither section 306 nor 307 requires a steam railway to stop when crossing an electric road or tramway. It is conceded that if the crossing is that of two steam railways under subsection (1) of section 306, all trains or engines come to a stop. It is argued, in effect, that section 306, subsection (1) while prohibiting an electric train, or an electric car, on a main line of railway, from passing over a crossing of a steam railway, until a proper signal has been received, as by that section prescribed, the trains or engines on the steam railway may cross the electric railway without such stop.

This is made clear by the following question and answer (vol. 327, p. 2954):—

> "The Chief Commissioner: Then you mean that if an ordinary train is coming along and reaches a place where the electric road crosses the steam road, the train is not compelled to stop?"
>
> "Mr. Chisholm: Yes, that is my argument."

I cannot read section 306 (1) as to see the cogency of this argument. The section is prohibitive:—

> "No train, or engine, or electric car, shall pass over any crossing where two main lines of railway or the main tracks of any branch lines cross each other at rail level, whether they are owned by different companies or the same company, until, etc., etc."

A train or engine does not run on an electric line, but the prohibition is as to train or engine. The electric car does not run on the steam railway, but the prohibition is as to the electric car. No significance in my opinion is to be attached to the words—

> "Any crossing where two main lines of railway, or the main tracks of any branch lines, cross each other at rail level."

In the absence of any specific interpretation in the Act as to what is a "main" line of railway, either steam railway, or electric railway. In most cases every electric railway is a main line of that railway, and as to steam railways the section applies as well to branch lines (main tracks) as to the main lines of railway, and the interpretation section (subsection 21) of section 2 means any railway which the company (i.e., the railway company) has authority to construct, or operate, and except where the context is inapplicable, includes electric railway and tramway. It would be very hard to argue, in the face of the enacting words of the section specifically mentioning electric cars, that the inclusion of electric railways on which those cars run is inapplicable to the context of the section and my view is that the word "railway"

in the section includes, and is plainly intended to include, railways, steam or electric, and with that made plain, the prohibition applies equally to a train, or engine, on the steam railway as well as to the electric car on the electric railway.

Subsection (1) of section 306 is applicable where there is—"a competent person or watchman in charge of such crossing." Subsection 2 of section 306 makes provision for the movement in the case of an electric car crossing any railway track at rail level where there is no person in charge, so that under subsection (1) of 306, if there is a person in charge of the crossing, it seems to me that train or engine, on the steam railway, and electric car on the electric railway, is prohibited from passing over the crossing until the signal is given. Under subsection (2) it is a specific duty, by reason of the nature of the traffic, laid upon the conductor of the electric car, to leave his car and ascertain that the way is clear, before giving a signal to proceed. The differences in the operations mentioned in subsection 1 and subsection 2 of section 306 are differences merely by reason of the diverse nature of the operations of the steam train and electric car respectively.

Now section 307 is absolutely mandatory in its enactment. It says:—

> "Every engine, train or electric car shall, before it passes over any crossing, as in the last preceding section mentioned, be brought to a full stop."

Then follows a provision that where there is an interlocking switch and signal system or any other device, which, in the opinion of this Board, *renders it safe to permit engines and trains, or electric cars to pass over such crossing, without being brought to a stop*, the Board may, by order, permit such engines and trains, and cars, to pass over such crossing, without stopping, under such regulations as to speed and other matters as the Board deems proper.

No argument that I have heard has impressed me as varying the plain meaning of this section as applied to section 306. It is a specific direction in the interests of public safety as to the taking of necessary precautions at a railway crossing to avoid danger, as well in the interests of the public riding on the electric railway as of those riding on the steam railway. I see no reason why the passengers on an electric railway should be exposed to a greater hazard than those on a steam railway—but this is by the way. The sections are, to my mind, interlocked, and provide clearly for the various operations involved, and I think section 307 leaves no room for doubt, that whether there be a watchman or not at the crossing, every engine, train, or electric car shall, before it passes over any crossing, such as is mentioned in section 306, be brought to a stop, unless under the conditions and provisions mentioned in section 307, the leave of the Board is obtained to pass over said crossing without stopping.

At the hearing the railway employees were represented by Mr. W. L. Best, who strongly contended that the sections meant "stop."

Although ingenious argument was directed at the hearing to endeavour to engraft upon the sections, or one of them (section 306), a meaning which is obscure, I am unable to agree that the sense of the sections is in any way obscured or that there is any exception in favour of steam railways in their mandatory nature as to precautions in such a place of danger where the interests of public safety must receive the broadcast and most anxious consideration of the Board.

RATES ON PULPWOOD FROM CANADIAN POINTS TO UNION BAG & PAPER COMPANY'S MILLS AT HUDSON FALLS, N.Y.

Judgment, Commissioner Boyce, March 16, 1921, concurred in by the Chief Commissioner and the Deputy Chief Commissioner.

The Union Bag and Paper Corporation, with head offices in New York city and mills at Hudson Falls, N.Y., under date June 4, 1919, preferred a complaint to this Board, the substantial portion of which is as follows:—

"The subject which I had in mind, and which I would thank you for presenting to the Board, *informally*, is in the matter of rates on pulpwood from Canadian points to our mills at Hudson Falls, N.Y.

"When the Interstate Commerce Commission granted the roads in the official classification territory of the United States a 15 per cent increase on commodity rates their decision of March 12, 1918—lumber and forest products were to take an advance of 1 cent per hundredweight. Later the general 25 per cent advance, which became effective June 25, 1918, further increased these rates by 25 per cent.

"In January, 1918, the Board of Railway Commissioners for Canada granted the Canadian roads a 15 per cent advance on all class and commodities, with the exception of coal. Their Permission No. 76 authorized the Canadian roads to further advance their rates 25 per cent, effective June 25, 1918, with the provision that, wherein the Canadian lumber tariffs were not in harmony with the American tariffs on the same commodities, same was to be adjusted accordingly. These grants by the Board resulted in the Canadian roads first advancing the rate on lumber and forest products 15 per cent and later by 25 per cent.

"Take for instance—Causapscal on the Canadian Government, on pulpwood. This is a Group 18 point. Prior to May 20, 1918, the rate from Causapscal to Hudson Falls was 16 cents per cwt. as per Canadian Government Tariff C.F. 226, I.C.C. 813, C.R.C. 1384. Effective May 20, 1918, this rate was advanced to 18½ cents as per C.G. Tariff C.F. 280, I.C.C. 869, C.R.C. 1536. Effective June 25, 1918, the rate was further advanced to 23 cents per cwt. as per Canadian Government Tariff C.F. 289, I.C.C. 882, C.R.C. 1555.

"Let us also consider a typical point on the Q.C., namely, St. Joseph. On pulpwood to Hudson Falls this "is a Group "D" point. Prior to April 17, 1918, the rate from St. Joseph to Hudson Falls was 10½ cents per cwt., as per Quebec Central Tariff 590, I.C.C. 231, C.R.C. 522. Effective April 17, 1918, this rate was advanced to 12 cents per cwt., as per Quebec Central Tariff 652 I.C.C. 258, C.R.C. 593. Effective June 25, 1918, this rate was further advanced 15 cents per cwt., as per Supplement No. 2 to the tariff last mentioned above.

"It is our contention that if the Canadian Board's Permission No. 76 had been literally followed, effective June 25, the rate on pulpwood from Causapscal to Hudson Falls would have been 21½ cents per cwt. and the rate from St. Joseph to Hudson Falls would have been 14½ cents per cwt.

"We are using Causapscal and St. Joseph merely as examples. During the summer of 1918 there were thousands of cars of pulpwood shipped from practically all sections of Eastern Canada to us at Hudson Falls.

"It seems to us that these tariffs should be immediately corrected, and that we should be awarded proper reparation. We, of course, are prepared to support our claim with proper documentary evidence, and we will appreciate the Board's taking this matter under immediate consideration and letting us have their decision, *at least informally*, at an early date."

The application is for interpretation and correction of the joint through rates on pulpwood from Canadian shipping points to United States destinations. The question involves the interpretation to be given to the order of the Interstate Commerce Commission, No. 57 (ex parte), dated March 12, 1918, in its 15 per cent case, and the Board's Special Permit No. 76, dated June 5, 1918, in connection with the United States Railroad Administration's General Order No. 28, dated May 25, 1918, generally referred to as the McAdoo Order.

Interstate Commerce Commission Order No. 57, reads in part as follows:—

"Commodity rates on lumber and forest products may be increased by 1 cent per 100 pounds."

Upon that order this Board issued its Special Permit No. 76, addressed to the Chairman of the Canadian Freight Association:—

"CANADIAN PACIFIC R'Y. CO'S. TELEGRAPH"

OTTAWA, June 5, 1918.

"G. E. RANSOM,
"Canadian Freight Assn.,
"Montreal, P.Q.

"Your application June first. Existing freight tariffs from Canada to United States may be increased to same extent as those in reverse direction under Director General McAdoo's General Order two eight, and may be made effective not earlier than June twenty-fifth instant by filing on not less than one day's notice, provided that where tariffs, lumber from eastern Canada for example, are now out of line with American tariffs on same commodities from or to corresponding or competitive territories in United States, they must now be placed on proper relative basis. Board's special permission number seven six."

A. D. CARTWRIGHT.

The applicants take the ground that pulpwood is a "forest product," and that as such it was expressly provided for in the I.C.C. Order No. 57, quoted above. That consequently in computing or making up, under the 15 per cent order, the through rates charged the applicants they should have been made upon the basis therein specified, viz: 1 cent per 100 pounds plus 25 per cent, in accordance with the increase orders, instead of, as has been charged and paid by applicants, viz: 15 per cent addition under the first, and 25 per cent under the second order. The railways contend that the I.C.C. order was intended to apply to the products commonly covered by the lumber tariffs and that pulpwood having a special tariff is not one of these. The applicants ask for correction of the tariffs and suitable reparation, upon the thousands of cars shipped there under the increased rate. The differences on the movements shown in applicant's complaint, are, an excess charge of 1½ cents per cwt. from Causapscal Falls, and a ½ cent per cwt. from St. Joseph to Hudson Falls, N.Y., respectively, but on the thousands of carloads involved the reparation asked for is substantial.

The Special Permission of this Board, No. 76, cited above, authorizes the increase of freight tariffs from Canada to United States points "to same extent as those in reverse direction under Director General McAdoo's General Order No. 28," with the proviso that where tariffs, instancing lumber from Eastern Canada, were out of line with American tariffs on the same commodities from or to corresponding or competitive territories in United States, they should be placed upon the same relative basis. The effect of the order with the proviso mentioned, was to adopt so far as the Canadian portion of the International through rate originating in Canada was concerned, the increase Order of the Director General of the United States making same to conform to the American rates on the proper relative basis.

The contention of the Canadian Freight Association is that the Canadian Railways have advanced their rates into this competitive territory to the same extent and upon the same principles as the American railways have advanced theirs. Mr. Ransom, at the hearing (p. 3181-2) explains the contention of the Canadian railways in this respect as follows:—

"The CHIEF COMMISSIONER: Have you any knowledge, Mr. Ransom, of what has been the attitude of the Interstate Commerce Commission upon this

subject? The order is rather a peculiar one. I think for the purpose of getting it on record I had better read it. It is an Order of the Board dated June 5, 1918."

The Chief Commissioner then read Special Permit of this Board, of June 5, 1918, No. 76 (cited above) and proceeded:—

"That shows that this order must be construed very largely in respect of how the Interstate Commerce Commission may construe their tariffs under their 15 per cent rate case.

"Mr. RANSOM: We say as the United States carrier construes the order. Furthermore, the specific advance given by this Board on pulpwood at points in Canada is identically the same as we have advanced in the States. I do not believe it is the intention of the Board to make a lower advance on pulpwood from Canada into the United States than was given the Canadian manufacturers."

This Board's permit No. 76, referred to above, it will be observed, provides for increases in tariffs to same extent as those in reverse direction, but it is pointed out, and accentuates the difficulties of interpretation, that there is no traffic in pulpwood from United States to Canada, and therefore, no interpretation of the American tariffs from that point of view is to be had.

Mr. Macdonnell, for the Canadian Pacific Railway Company, quoted the following distinctive rates from two characteristic pulpwood shipping points in Eastern Canada (Batiscan and Megantic) to Hudson Falls, N.Y., on lumber and pulpwood, respectively, as showing what those rates were prior to the 15 per cent increase and the effect of the increases of 15 per cent and 25 per cent respectively, and shewing that pulpwood moved under a lower rate than lumber, as follows:—

LUMBER

From	Tariff	Tariff	Tariff
	E-2650	E-3103	E-3193
	C.R.C.E.-3022	C.R.C.E.-3419	C.R.C.E-3504
	August 16/15	April 20/18	June 25/18
Megantic, P.Q.. ..	13.7c. per cwt.	16c. per cwt.	18½c. per cwt.
Batiscan	14.7c. per cwt.	17c. per cwt.	19½c. per cwt.

PULPWOOD

From	Tariff	Tariff	Tariff
	E-2475	E-3097	Supp. 3, June 25/18
	C.R.C.E-2847	C.R.C.E-3413	E-3097
	September 10/14	April 3/18	C.R.C.E-3413
Megantic	10c. per cwt.	11½c. per cwt.	14½c. per cwt.
Batiscan..	10c. per cwt.	11½c. per cwt.	14½c. per cwt.

The classification in the McAdoo Order (25 per cent case) appears in section 2(a) under the following head:—

"Lumber and articles taking same rates or arbitraries over lumber rates; also other forest products, rates on which are not higher than on lumber, twenty-five (25) per cent, but not exceeding an increase of 5 cents per 100 pounds."

By section 3 all export and import rates were cancelled and domestic rates applied to and from ports.

It appears from the Canadian tariff, cited above, that pulpwood moving from Eastern Canada to United States points takes a lower rate than lumber, and it is strongly contended by applicants, that pulpwood is a "forest product" and as such is governed by the classification, and increases thereon, under the term "lumber and forest products" in I.C.C. Order No. 57, and not by the Canadian tariffs on pulpwood.

The Chief Traffic Officer of the Board, in an interim report, points out that in the report of this Board to the Governor in Council, in the Canadian 25 per cent Rate Case, says, section 11:—

> "In the Maine and New Hampshire districts, where pulpwood is produced and comes directly into competition with Canadian pulpwood, the American railways put into force an advance of 15 per cent before the McAdoo order was made."

But, it is pointed out, that this statement not only is dependent upon the reading of the American tariffs, but is subject to the interpretation placed upon them by the Interstate Commerce Commission wherever they have been the subject of investigation by that body, and that, therefore, it is important that the Board should examine the American tariffs to ascertain how far its statement to Council, as above, is subject to variation, in view of the Board's Permit No. 76, by changes made in tariffs by the American railways, either of their own motion, or as a consequence of rulings by the Interstate Commerce Commission giving these tariffs a different construction. As the Order of the Interstate Commerce Commission applied to through rates into Canada as well as to American domestic interstate rates, the Board's 15 per cent order necessarily applied not only to through rates from Canada to the United States, but to rates within Canada. The Board, therefore, both in its preliminary examination of the complaint, and at the hearing, made inquiries as to these American tariffs, *i.e.*, those applying between points in the United States and not internationally, and therefore not filed with the Board, as necessary evidence to the full consideration of the case. It also made inquiries as to the interpretation placed upon them by the Interstate Commerce Commission. The inquiries in both these respects have not, so far, been productive of such definite information and evidence as, in my opinion, enables this Board to decide that the question of interpretation is free from doubt, although there is some evidence thereupon to which I shall refer. The American tariffs could not be supplied. It was said by applicants that they could not be procured because they were not available.

The applicants were then asked to obtain from the American railways concerned, a statement of increases in their pulpwood rates, made under the authority of the Interstate Commerce Commission, *ex parte* Order No. 57. The applicants, therefore, submitted replies from some of the American railways concerned, and also a letter from the Interstate Commerce Commission, addressed to applicants in reply to their inquiry, relative to increase of rates on pulpwood. As the mater is of importance, I will quote the substance of the replies from the American railways, to the applicants, as regards these rates:—

(1) Michigan Central Railroad, November 4, 1919:

> "The rates on pulpwood were advanced 1 cent per 100 pounds. Tariff containing the 15 per cent was cancelled."
>
> They attached copy of present tariff, which is in line with I.C.C. decision of March 12, 1918, in case *ex parte* No. 57, which authorized the advance of rates on lumber 1 cent per 100 pounds.

(2) Grand Rapids and Indiana Railroad, November 1, 1919:

> "Our pulpwood rates under the application of the above decision in *ex parte* 57 were advanced 1 cent per 100 pounds."

(3) New York Central Railroad, October 28, 1919:

> "As to our local rates . . . they were advanced 15 per cent with a maximum of 20 cents per ton or 1 cent per 100 pounds. We have a number of tariffs making rates on pulpwood between points on our line but I would

be at a loss to know which to send you. I take it, however, that in view of the definite advice given above as to the method used in advancing our pulpwood rates, that your needs will be met."

(4) Central Vermont Railroad, October 27, 1919:

"I have not had an opportunity of checking all of our special rates on pulpwood, but my understanding is that we increased our pulpwood rates by the same measure as obtained on lumber, namely, 1 cent per 100 pounds."

The Canadian Freight Association being appraised of the opinion of the Board that the American tariffs referred to were of importance in the consideration of this matter, also made inquiries of certain American railroads, and submit the following in support of their point of view:—

(1) Maine Central Railroad, July 10, 1919:

"Your understanding, so far as this railroad is concerned, is correct; that is, in the 15 per cent case, where specific commodity rates were established on pulpwood, the rates were increased 15 per cent, but where pulpwood was carried in the lumber tariffs, the rates were increased 1 cent per cwt. In the 25 per cent the same method obtained."

(2) Boston and Maine Railroad, June 30, 1919:

"From checking up our local rates on this commodity, I would advise that the Boston and Maine Railroad proceeded to advance their rates in the same manner as outlined in your letter, that is, if pulpwood was carried in a lumber tariff at lumber rates, it was advanced 15 per cent and 25 per cent, or if this commodity was carried in a separate tariff at specific rates, we also advanced these specific rates 15 per cent and 25 per cent."

(3) New York Central Railroad, June 23, 1919:

"The New York Central Railroad rates on pulpwood in Northern New York were advanced 15 per cent under *ex parte* No. 57 and not 1 cent per 100 pounds as was done in connection with the rates on lumber, and under the 25 per cent advance, the rates were advanced 25 per cent without reference to the special advance on lumber."

With regard to the last-mentioned letter it is to be observed that the statement of the New York Central Railroad to Mr. Ransom, of June 23, 1919, is not exactly in the same terms as the statement from the same railroad of October 28, 1919, to the applicant company.

The applicants also submit a copy of a letter addressed to them from the Interstate Commerce Commission, March 5, 1920, as follows:—

"The commission has received your letter of February 10, with enclosures, file WA-2, relative to increase of rates on pulpwood under the commission's order of March 12, 1918, in the 15 per cent case.

You are advised that the commission does not appear to have interpreted the particular portion of its order above referred to relating to pulpwood so as to enable me to answer your enquiry.

It is the policy of the commission not to express opinions upon such matters unless or until they arise in connection with concrete instances within its jurisdiction. Since the rates to which you refer in your letter are published by Canadian lines, the commission would be averse to expressing its interpretation of the order referred to in connection with the facts presented by you. If the Board of Railway Commissioners for Canada desire an inter-

pretation by the commission of the portion of its order of March 12, 1918, relating to pulpwood, a suggestion to that effect by the Board addressed to the commission would of course receive careful consideration."

It will be observed that the statements of the American railways are not entirely in accord, or free from doubt, with regard to the point in issue and which this Board is asked to decide.

The Board, therefore, on March 20, 1920, submitted to the Interstate Commerce Commission, an inquiry as to that commission's interpretation of its order with respect to the matters in question, as outlined in the following letter:—

"It has been represented to the Board, in connection with a complaint relating to shipments of pulpwood from Canada to the United States, that a different interpretation seems to have been placed by the United States carriers on the Interstate Commerce Commission's order, dated March 12, 1918, in the 15 per cent case, so-called, as it affected pulpwood shipments, some having increased their rates one cent per 100 pounds and others 15 per cent, and that the Board of Railway Commissioners would be much pleased to have the Interstate Commerce Commission's interpretation of its order in this regard."

The reply of the Commission on the 21st April was as follows:—

"This matter has been given consideration, and it is the informal view of the Commission that pulpwood falls within the term "forest products" as this term is used in the Commission's Order in the 15 per cent rate case."

The view of the Interstate Commerce Commission as expressed in the above letter is stated to be an informal one and apparently conflicts with the interpretation of the Interstate Commerce Commission's 15 per cent Order, as expressed in the tariffs of some of the United States carriers referred to above, so that while, informally, the Interstate Commerce Commission expresses an opinion to this Board as to the construction to be placed upon the tariffs, it would appear that there are in force, in the United States, tariffs which have not been modified or brought into line with this interpretation of the Interstate Commerce Commission, and consequently the matter remained open to some doubt, and under these circumstances, it came to a hearing, at which, it must be confessed, not very much further light was thrown upon the difficulty involved.

Reference having been made at the hearing to the tariffs of the Bangor and Aroostock R.R., Maine Central, and Boston and Maine, it is ascertained, upon examination, that the history of these tariffs relative to the circumstances under consideration is as follows:—

"BANGOR AND AROOSTOOK R.R.

"B. & A. R.R. tariff C.R.C. No. 242, effective January 11, 1918, from local points to Corinth and Fort Edward, N.Y., quote a 19-cent rate, which was increased to 22 cents, or 15 per cent, on April 29, 1918, in tariff C.R.C. 256, and which was reduced in tariff 280, effective March 31, 1918, to 20 cents, or an advance of 1 cent over rate in C.R.C. 242, and again increased 25 per cent by blanket supplement effective June 25, 1918."

BOSTON AND MAINE R.R.

"B. & M.R.R. Tariff C.R.C. No. 1744 (as in Supplement 7 thereto, effective December 17, 1917) from stations in Canada and the United States to points in Mass., N.H., Vt., N.Y. and Pa. was cancelled by C.R.C. 1871, effective June 10, 1918, which increased rates 15 per cent and which was further increased 25 per cent by blanket supplement effective June 25, 1918."

MAINE CENTRAL R.R.

"M. C. R. R. C.R.C. No. C-1283, effective February 21, 1918, from stations in Canada and the United States to points on Boston and Maine and St. Johnsbury and Lake Champlain R.R.'s was cancelled by C.R.C. No. C-1347, effective April 17, 1918, which increased rates by 15 per cent. These rates as increased by 15 per cent are carried forward in tariff C.R.C. No. C-1435, effective June 17, 1918, and further increased 25 per cent by blanket supplement effective June 25, 1918."

Communication was had with the Interstate Commerce Commission with reference to the tariffs of the Bangor and Aroostook, to Corinth and Fort Edward on pulpwood, and the reissue thereof substituting the increase of 1 cent per 100 pounds. The Commission was asked to state, having reference to its previous letter to the Board of April 21, cited above, whether the increase in rates on pulpwood, permitted by the I. C. C. was 15 per cent, or 1 cent per 100 pounds, and it was requested to state the reason for the rejection of the tariff of the Bangor and Aroostook R.R., for which the Bangor and Aroostook substituted I.C.C. 1283, changing the increase over the ordinary rate, from 15 per cent to 1 cent per 100 pounds, and whether such rejection had any connection with the informal view of the Interstate Commerce Commission, as communicated to the Board in the letter referred to. In reply to this enquiry the following communication was received from the Interstate Commerce Commission, with its enclosure, which are set out in full as follows:—

"Referring further to your letter of November 15, having reference to the communication of this Commission dated April 21, 1920, regarding rates on pulpwood.

"You refer to the fact that the B. & A. tariff I.C.C. 1222 which purported to increase rates on pulpwood 15 per cent was rejected for filing by this Commission and a subsequent tariff provided for a straight increase of 1 cent per 100 pounds on this commodity, and ask whether our informal ruling of April 21 had any bearing upon the rejection of this tariff.

"Our examination of the files indicates that the tariff in question was rejected on April 30, 1918, practically two years prior to the time of our informal ruling above referred to. The reason for rejection of this tariff was fully outlined in a subsequent letter from our Bureau of Tariffs dated May 11, 1918, a copy of which is enclosed. You will observe that in both instances the Commission took the view that pulpwood properly should be considered as a "forest product," within the meaning of *ex-parte* 57. There is nothing to indicate, however, that our rejection of this particular tariff and our informal ruling on a similar question had any direct relationship one to the other, except, of course, that both actions were predicated on practically the same theory.

(*Enclosure*)

"Yours of the 4th instant, file W-1501, enclosing copies of your I.C.C. No. 1222 and Advice No. 1828 that we returned to you with my letter of the 30th ult., received and has my attention.

"In reply, would say that I have before me your message of March 23, 1918, to the Commission, and the Secretary's reply of March 25, 1918, and it does not appear that either under these messages or under those from and to Mr. McCain quoted in your letter, any authority is extended for increasing rates on pulpwood in excess of one cent per 100 pounds, permitted by the Commissioner's Order of March 12, 1918, in Ex Parte 57.

"It is true that in your I.C.C. No. 1133, naming rates on lumber and other articles taking lumber rates, that pulpwood is not specifically named but

wood pulp boards are named, and the tariffs of other carriers in your territory do include pulpwood as a forest product. In this connection see Central Vermont Railway I.C.C. No. A-4268, item 5, page 8, and other tariffs that I might mention.

"It is noted also that, in your I.C.C. No. 1133 wood pulp is named as taking lumber rates, which certainly is a product more remote from the forest than the pulpwood itself.

"The statements given in your letter have been given full consideration and you are advised that the Commission may not accept these tariffs for filing for the reason they assume to increase rates more than one cent per 100 pounds. Copies of the schedules recited in the first paragraph of this letter are, therefore, herewith again returned."

It therefore appears that the contention of the applicants that pulpwood is a "forest product" received in the two instances referred to in the first of the above quoted letters, a favourable construction, but there is no definite ruling of the Interstate Commerce Commission having primary jurisdiction over the American rates, which places the general question as to its applicability to the American railways involved, without question, so as to justify this Board in treating the question as one beyond doubt or dispute. The concluding paragraph of the letter from the Interstate Commerce Commission, of January 13, last, to the Board, indicates the restriction, or limitation, I have referred to."

The same question having arisen on a complaint to the Board by the West Virginia Pulp and Paper Company (Board's file 26901.11) it is pertinent to what is involved to refer to the letter, March 7, 1921, and a copy enclosed therewith of letter November 19, 1918, from the Delaware and Hudson Railway Company, as indicating the views of the American railways, as to the construction to be placed upon I.C.C. Order No. 57, and this Board's Special Permission 76:—

"Your letter of March 3 referring to mine of September 16, 1918.

"Attached is copy of letter from Mr. W. G. Storey, Assistant General Freight Agent of the D. & H. dated November 19, 1918, from which you will note that the carriers in Trunk Line territory gave the matter careful consideration and decided that pulpwood was a forest product and that an increase of one-cent per 100 pounds should apply. Furthermore, the Norfolk and Western advanced their rates on pulpwood to Luke, Md., and Piedmont, W.Va., under the 15 per cent decision the full 15 per cent not recognizing the 1 cent maximum advance. The tariff was afterwards corrected to a maximum advance of one cent and refund of the overcharge caused by their overlooking the one cent maximum is being handled by the Interstate Commerce Commission under their informal dockets 70073, 70203 and 72099."

(Enclosure)

Delaware and Hudson R.R.

"Referring to your letter of November 11, file 533-Can., relative to advance of 1 cent per 100 pounds, in all commodity rates on pulpwood under the 15 per cent increase.

This question was given careful consideration by the Trunk Lines and it was decided that pulpwood was a forest product and increase of 1 cent per 100 pounds should apply."

The distance from Causapscal, Que., where shipments in question originate, to Hudson Falls, N.Y., is 608 miles—the movements being via St. Lambert, to Rouse's Point, N.Y. (a distance of 450 miles) thence 158 miles to Hudson Fall, N.Y. Of the 450 miles Canadian haul, 407 would be on the Canadian Government Railways, over which the Board exercises no jurisdiction, and which railway was not before us at the hearing, and 43 miles on the G.T.R., thence Delaware and Hudson to Hudson

Falls, N.Y. This Board, therefore, in any event, and apart from the construction of the American Railways, or the interpretation of the I.C.C. would only have jurisdiction over 43 miles of the Canadian haul.

From St. Joseph, Que., the alternative routes would be—

To Rouse's Point, N.Y. via Sherbrooke, G.T.R. and St. Lambert, Que., G.T.R...	243	Miles
Rouse's Point to Hudson Falls, N.Y. (D&H)...	158	"
	401	"

or

St. Joseph, Que., to Rouse's Point, N.Y., via Sherbrooke, C.P.R. and Delson Jct. and N.J. Ry...	226	"
Rouse's Point to Hudson Falls, N.Y...	158	"
	384	"

On the haul from Causapscal to Hudson Falls, N.Y., but 43 miles of total mileage of 608, is under this Board's jurisdiction as to rates. On the St. Joseph traffic, the larger mileage is in Canada. Excluding that part of the St. Joseph-Hudson Falls mileage, which is under the Board's jurisdiction, there would be on the two movements involved in the complaint (St. Joseph and Causapscal, Que., to Hudson Falls, N.Y.) a slight preponderance of the mileage in the United States.

The case, in its analysis, is very similar to that presented to this Board in re Complaint of Consolidated Gas Electric Light and Power Company of Baltimore, Md., against rates on bog iron ore charged by the Canadian railways (Board's file No. 3079.37), Judgments of the Board (1919), p. 402, in which the Assistant Chief Commissioner in delivering the judgment of the Board, and after reciting the expressed attitude of the Interstate Commerce Commission, as reported in a number of cases there cited as regards distribution of jurisdiction between that body and this as regards the portions of the interstate traffic falling within the jurisdiction of each, respectively, says, p. 411:—

> "It will be noted that while in agreeing in the practice, the Interstate Commerce Commission in no way recedes from the position that as a matter of jurisdiction its powers to regulate the United States portion of the rate is absolute; and it has, in fact, from time to time so acted notwithstanding the informal modus vivendi above referred to"—and again, on the same page—
>
> "The jurisdiction of the Interstate Commerce Commission over the haul within the United States is undoubted. What is involved is the determination of the meaning and application of a United States tariff basis, which, as a matter of reciprocity has been made applicable on the movement from Canada to the United States."

This view is distinctly apposite to the present case, and I concur in and adopt it. It is specially applicable when the wording of the Board's Special Permit No. 76 is considered. As I read it, that permit by this Board is absolutely limited in its effect by such construction or interpretation as the Interstate Commerce Commission give to the tariffs of the United States railways. There is, in my view, in the informal opinion of the Interstate Commerce Commission herein quoted, in its interpretation as applied to the Bangor and Aroostook Railway tariffs, in the statement from the Delaware and Hudson Railway and in the several quoted letters from other American railways, evidence supporting the contentions of the applications as to the interpretation to be placed upon the tariffs in question. I do not say that while indicative, it is conclusive of the opinion the Interstate Commerce Commission might hold in considering the whole question here involved in its application to the United States railways tariffs within the jurisdiction of that body. I think it is

proper that in view of the principles involved, upon which the Board has stated a definite opinion, expressed above, the interpretation of the American tariffs should rest with the Interstate Commerce Commission, and that the applicants should be referred (as in the Bog Iron Ore Case) to the jurisdiction of the Interstate Commerce Commission for the remedy within that jurisdiction. If, after invoking and exhausting that jurisdiction, as regards the matters referred to it for its decision, any further action or remedy within this Board's jurisdiction is necessary, written submissions may be made, which can be considered, when necessary, with and as part of, the present case, which may be permitted to remain in suspense pending any further submissions as above indicated.

No order is now necessary.

CLASSIFICATION OF AGRICULTURAL IMPLEMENT PARTS

Judgment, Assistant Chief Commissioner McLean, March 21, 1921, concurred in by the Chief Commissioner.

Supplement No. 16 to Canadian Freight Classification No. 16 has been gone into in conference with the shipper's representatives, and the submissions made have been considered.

A copy of the conference memorandum was supplied to Mr. P. G. Denison, Manager of the Transportation Department of the Winnipeg Board of Trade. The Board is advised by Mr. Denison that the principal points his clients were interested in were taken care of, and, under the circumstances it would be quite in order to withdraw the formal protest of the Winnipeg Board of Trade against the supplement.

Mr. S. B. Brown, the Assistant Manager of the Transportation Department of the Canadian Manufacturers' Association, advised that his understanding is that there are no contentious questions in the Supplement to be considered by the Board. Mr. Tilston, on behalf of the Montreal Board of Trade, advises to the same effect.

In a letter from Mr. T. Marshall, Manager of the Traffic Department of the Board of Trade of the city of Toronto, dated February 14, 1921, it is stated that the only qualification he has to make in regard to the matter as having been satisfactorily adjusted is that he had understood that item 10, page 47, of the proposed supplement, was to have been amended so as to provide that a distinction would be made between the rear and front axles of self-propelling vehicles in accordance with the ratings provided, the front axles being carried at ratings of 3rd class L.C.L., and 5th class C.L.; the higher rating to apply on the rear axles with attachments. This is taken care of in a further revision of the supplement, it being provided that front axles, loose or in packages, are given a rating of 3rd class L.C.L., and 5th class C.L. On these submissions the supplement is now in shape for approval.

The Board is in receipt of a telegram from the Canadian Explosives, Limited, urging the sanctioning of the supplement. It is stated that the new supplement provides for a rating on safety fuses, 1st class L.C.L. and 3rd class C.L. (the latter being a new rating), and desires that the matter be put through as promptly as possible. A communication has also been received from Mr. Tilston of the Montreal Board of Trade on behalf of other interested shippers.

What is involved in the application of the Massey-Harris Company is a distinction in rating between agricultural implements and agricultural implement parts. At present the only specific ratings contained in the classification dealing with agricultural implement parts are to be found in the hardware list, the items in question being: Knives (mower and reaper); plough castings, mold boards, points, shares or wings; teeth (cultivator); teeth (drag); teeth (harrow); teeth (rake); teeth (thresher). With the exception of teeth (cultivator), which is rated 4th class in carload shipments, the other items are rated carloads 5th class. There is no provision for agricultural implement parts under the agricultural implement list.

The railways have now specifically set out under 5th class rating in carloads, in the agricultural implement list, the various agricultural implement parts carried. They contend that while they have not hitherto so specified all the articles, that the proper rating was in general 5th class; and it is further contended that in the absence of a specific rating that the rating of the agricultural implement parts which were specifically mentioned would govern, and therefore, 5th class would apply.

The Massey-Harris Company states that while parts for agricultural implements as such were not included in the agricultural implement class, it has been the practice in the past of this company, and of other companies manufacturing agricultural implements, to ship mixed cars of agricultural implements and parts at 6th class rating, there being no limitation as to the amount of implement parts entering into the mixture. In other words, it is alleged that there has been accorded in practice a 6th class rating to agricultural implement parts. Mr. Ransom states that this has not been done with the knowledge and agreement of the railways. It has, however, not been the practice of the railways to inspect cars which were described on the bills of lading as agricultural implements; that is to say, when the car was billed as containing agricultural implements, this was taken as conclusive, and further investigation was not made as to the contents of the car in respect of a mixture of agricultural implement parts.

It is contended by the Massey-Harris Company that it is anomalous to have spare parts on a higher rating than the implements of which they form repair parts. This opens up a wide field of discussion which would be more apposite in connection with a general consideration of the question of classification. It may be mentioned in passing, that spare machinery parts are classed higher than the machinery itself.

As to the mixing of agricultural implement parts and agricultural machinery, item 10, page 65, of Classification No. 16 provides that mixed cars which also contain articles rated higher than 6th Class C.L., are subject to rule 2, and this is the mixing rule which gives a different rule of practice east of Port Arthur as compared with shipments from points east of Port Arthur to Port Arthur and west, and between points west of Port Arthur.

East of Port Arthur, when articles of different classes are mixed, the highest rate and highest minimum car-load rate applies. West of Port Arthur the mixing is not allowed under different distinctive headings; and it is further provided that when articles under one distinctive heading of the same class C.L. are mixed, the car-load rating and highest minimum weight of such class will apply. So far as the classification is concerned, the mixing on shipments from east of Port Arthur to west of Port Arthur, and between points west thereof, of agricultural implement parts at 6th class, and of agricultural implements at 5th class, said articles being under distinctive headings, is not permitted. There is, however, a tariff practice dealing with the mixing of agricultural implement parts up to twenty-five per cent of the billed weight.

From the east to the west this mixing is permitted by tariff provision. Item 10, page 30, of Ransom's Tariff No. 5D, C.R.C., No. 61, reads as follows:—

> "Agricultural Implements, taking 6th class in straight or mixed car-loads, and articles described in item 8 (as amended by supplement), page 65 of Canadian Freight Classification No. 16, farm wagons, farm carts, farm sleighs, bob sleds, windmills, windmill towers, sprayers (field or orchard, horse-drawn), straight or mixed car-loads (see note) minimum weight:—
>
> "Engines and threshers .....20,000 lbs.
> "All other articles specified above .....24,000 lbs.
> (file 1393)
>
> "NOTE.—Agricultural implement parts or parts of farm wagons, farm sleighs, bob sleds, made of iron, steel or wood, not to exceed 25 per cent of billed weight, may be included with above at same rate."

As pointed out, this tariff practice applies on shipments from east to west. The Board is advised that when Supplement No. 16 goes into effect the railways are prepared to publish a tariff providing for the inclusion of agricultural implement parts with carloads of agricultural implements at 6th class not to exceed 25 per cent of the billed weight; in other words, to extend to shipments between eastern points the application of the arrangement now existing from eastern to western points.

It is apparent that the tariff provision as to mixing, set out, is a modification of and reduction from a provision of the classification.

There is a disagreement of record as to what was agreed upon at the conference. Among the shipper's representatives present at the conference in Montreal were representatives of the following agricultural implement companies: The Frost and Wood Company, Limited; the Massey-Harris Company, and the International Harvester Company of Canada. In the memorandum of the proceedings of the conference, as submitted by Mr. Ransom, and which, as has been pointed out, is agreed upon by Messrs. Brown, Marshall and Tilston, as correctly representing the agreements arrived at, the following is set out as dealing with this portion of the matter:—

> "*Pages 12 to 16 inclusive:* Owing to protests received from the western Boards of Trade against the elimination from the hardware list of the agricultural implement parts now provided therein it was understood that the parts now carried in the hardware list would be continued therein.
>
> "The agricultural implement manufacturers asked for 6th class rating on agricultural implement parts in carloads, which the carriers were not prepared to concede, and after considerable discussion, they (the carriers) made the following suggestion: That commodity tariffs applying between points in Eastern Canada be issued providing that agricultural implement parts shown in Supplement 16 to Classification 16 and agricultural implements as shown in Classification 16 would be accepted for transportation in mixed carloads at the rating applicable on agricultural implements, provided that the weight of the parts did not exceed 25 per cent of the gross weight of the shipment and they would suggest to the Western Lines that they issue a similar commodity tariff to apply between points in Western Canada. This proposition was finally accepted by the manufacturers' representatives without in any way prejudicing the carload rating on agricultural implements in the classification.
>
> "While the question of rates to the Northwest is not involved in this supplement the matter was brought up and it was suggested by the manufacturers that in order to increase the loading of cars to the Northwest amendment be made to C.F.A. Tariff 5-D, providing for a greater proportion of agricultural implement parts when in mixed carloads with shipments. The carriers agreed to give this matter their careful consideration.
>
> "With the above understanding the present ratings and description shown in supplement (with the following minor changes) were allowed to stand:—
>
> "Page 12, item 32—Aprons:
>
> "Change L.C.L. rating to 2nd class.
>
> "Page 15, item 10—Change to read:
>
> "Poles:

"Wooden, finished :	L.C.L.	C.L.
"Loose or in packages	2	5"

On the other hand, under date of February 21, 1921, the following communication was sent to Mr. Ransom by the assistant general manager in charge of sales, of the Massey-Harris Company, Limited:—

"We gather from an intimation from Mr. Brown, the assistant manager, transportation department, of the Canadian Manufacturers' Association, that there may be an understanding on your part that our company is agreeable to the suggestion offered with regard to a temporary classification of repair parts for agricultural machinery as fifth class, pending a general discussion of the new proposed Classification No. 17.

"The writer regrets that he and Mr. Wedd, manager of our shipping department, were unable to stay over for the second day's consideration of this subject at Montreal, but we left with Mr. Brown, of the Manufacturers' Association, a letter which we expected would definitely indicate to your committee that we could not agree to the proposal of fifth class, even as a temporary classification, of spare parts in carload lots and will press for a continuance under definite authority of the classification for a condition that has existed with a knowledge of the carriers for so many years, namely, that spare parts should move in mixed cars or straight carload lots in the same classification as agricultural implements themselves.

The protest from the Massey-Harris Company is supported by a telegram from the International Harvester Company of Canada, asking that they be allowed to become a party to the protest and be given an opportunity to produce evidence, as it was impossible for them to be present at the sittings of the Board here on Tuesday, March 15. They were advised by wire that the case was going on on Tuesday, March 15, and they were to submit their case in writing if they were unable to be present. Such submission has not been received.

As the matter presents itself to me the 5th class rating involved is in accord with the ratings now effective on the implement parts specifically mentioned, and as a matter of construction of the classification, my understanding is that the rating of 5th class would apply at present on implement parts specifically mentioned.

I am not disregarding the contention of the Massey-Harris Company that it has been allowed to mix agricultural implement parts with agricultural implements on a 6th class rate and without limitation as to the percentage of mixture. As already set out, no classification authorization for this arrangement is provided. The Massey-Harris is in effect applying for a reduction from 5th class carload to 6th class carload on agricultural implement parts. This is an application for a revision of the classification rating which has for some time been operative. As has been pointed out, the special tariff provision allowing a 25 per cent mixture of agricultural implement parts is a substantial concession from the rigidity of the classification rule. The recommendation as to the application of the tariff between western points is also to be noted.

At the sittings of the Board on March 15 there was also before it an application of the Rubber Association of Canada for revised ratings on rubber tires and tubes. This application was launched on November 30, 1920. What is asked for in general is a reduction in the ratings of rubber tires and tire tubes, it being stated that the applicants are agreeable to conceding an increase in the minimum weight on rubber tires. The rating at present is 2nd class C.L. with a minimum of 16,000 pounds. The applicants ask for a 3rd class rating C.L., on rubber tires, loose or in packages, and concede to a minimum of 20,000 pounds. This is an application for a reduction in the classification which has apparently developed independently of the proceedings in connection with Supplement No. 16, and will have to be dealt with separately.

I am of the opinion that order should go approving of Supplement No. 16 to Canadian Freight Classification No. 16.

TELEPHONE TOLLS, BELL TELEPHONE COMPANY, FOR SERVICE IN ROCKLIFFE

Judgment, Assistant Chief Commissioner McLean, May 16, 1921, concurred in by the Chief Commissioner and Commissioner Boyce.

Correspondence has taken place from time to time with reference to telephone rates applicable in the police village of Rockliffe, which is adjacent to the eastern boundary of Ottawa in the area near the Ottawa river. Telephone development in Rockliffe embracing some seventy-two telephone subscribers is, as presented, one which is not primarily concerned with a use limited to the locality, but, rather, a use concerned with the utilization of telephone development of the city of Ottawa. The telephone charges for those resident in the police village of Rockliffe are made up of the Ottawa rate, plus excess mileage charges. The method by which these rates are built up is gone into in detail further on.

Subsequent to the correspondence already referred to, the Telephone Company, in November, 1919, applied to the village of Rockliffe a new telephone rate known as a "locality" rate. As explained by the company, instead of applying the ordinary mileage charges computed on route measurement from the exchange limits, there was applied a locality rate based on an average of one-half mile excess applying alike to all subscribers within the area above defined. In other words, instead of having an excess mileage charge according to the situation of the subscriber, one-quarter, one-half or three-quarters of a mile, etc., beyond the city of Ottawa, an average of one-half mile was taken. The effect of this on the company's revenues from excess mileage as set out by the company is as follows:—

Police Village of Rockliffe—

Total number of Rockliffe subscribers, 72.	
No change in rate	28
(*a*) Decrease in rate	34
(*b*) Increase in rate	10
	72
(*a*) Decrease in rate—	
9 subscribers at $11	$ 99 00
25 subscribers at $5.50	137 50
	236 50
(*b*) Increase in rate—	
10 subscribers at $5.50	55 00
Net revenue reduction	$181 50

Following the filing of this "locality" rate, complaint was made on behalf of the trustees of Rockliffe that the existing rate was excessive as compared with the rates charged in Ottawa. It was stated that under the increase allowed under the Board's judgment of 1919 the rate for the individual resident subscriber in Rockliffe was $38.50 per annum as against $27.50 charged in Ottawa.

The matter was listed for hearing and stood until a later date to suit the engagements of counsel.

The matter was subsequently heard and has stood for decision pending decision in the general telephone application.

The rates charged in Rockliffe were built up on the Ottawa city rate plus excess mileage beyond. The tariff provides for excess mileage beyond the municipal limits of Ottawa as of April 4, 1912. This agrees with the existing eastern boundary of Ottawa. Before the increase in 1919, the excess mileage charge applicable in Rockliffe was $20 per mile, or $5 per quarter mile. Up to the eastern boundary of the city of Ottawa, the resident in Rockliffe had the advantage of the Ottawa rate, and if resident within one-quarter mile beyond would pay $5 and so on, according to the mileage.

When the 10 per cent increase was allowed in 1919, the residence rate became $27.50, and adding 10 per cent to the excess mileage rate a rate of $22 or $5.50 per quarter mile was obtained. Under this arrangement, said rate of $27.50, plus $5.50, or $33, would apply for the quarter mile; $38.50 for one-half mile, and $44 for three-quarters of a mile. The "locality" rate which was filled and which was taken exception to is $38.50.

II.

When telephone development in Ottawa began and for a considerable period thereafter, there was only one exchange which is now known as the Queen Exchange. It is in a central position and may for the purposes of comparison and measurement be taken as the central point in Ottawa. The total length of circuit from said exchange to the eastern boundary of the city, which circuit the telephone user in Rockliffe would have the advantage of on the flat rate is, with the exception of one subscriber, 8,818 feet; in the case of the one subscriber, 9,258 feet. Of this, 2,800 feet are aerial cable in Ottawa and 6,018 feet underground cable in Ottawa in each case, with the exception of the one subscriber already referred to, who had 3,275 feet of aerial cable and 5,893 feet of underground cable, these measurements in each case being to the eastern boundary of the city. That is to say, in point of equipment required for carrying the message within the city of Ottawa, each subscriber in Rockcliffe made use of the maximum length of construction from Queen Exchange to the eastern boundary of the city. Of course, many of those resident in Ottawa and connected with the Queen Exchange had a much shorter wire mileage.

In the case of the Rockliffe subscribers, the average excess mileage beyond the eastern boundary of the city of Ottawa is 2,636 feet. The total circuit outside of Ottawa varies from 139 feet to 5,200 feet. The length of drop wire varies from 80 feet to 1,900 feet; the length of aerial cable varies from 525 feet to 3,600 feet.

III

In attacking the existing basis of rates, counsel for the applicants, in a letter on file, says:—

> "It seems perfectly unreasonable that because of a surveyor's imaginary line, irrespective of distance, and where the distances are nearer, that a public service corporation should be permitted to charge a higher rate for that service. It is a service which we pay for, not a surveyor's line. The question is, what is the service worth and for what is the same service charged elsewhere."

In the course of presentation, counsel stated that the applicants would not mind paying a reasonable increase, but thought that it was absurd that they should be asked to pay a rate such as asked for; this turning, as presented by Counsel, on a question of a surveyor's imaginary line.

IV

So far as the excess charges are concerned, the matter as presented fell under two headings: (1) that it was unreasonable to have the rate measured by a delimitation depending upon a surveyor's line; and (2) if applicants are to pay excess charges these should be based on particular conditions. It was suggested that while the rate of $20 per mile, subject to increase since made, might be reasonable when there was only one subscriber involved in the service, necessitating a full mile of construction for this work, that it was not a reasonable matter to put all on the same basis where there was a situation as, for example, that one line could serve five.

The argument that it is unreasonable to have excess mileage running from a point determined by the eastern boundary of the city of Ottawa, the surveyor's line referred to, implies that the village of Rockliffe should have the same rate as the city of Ottawa.

Telephone rates in cities and municipalities have been built up on a zone basis. The nature of the telephone business in local service is such that it would be difficult, if not impossible, to grade all local exchange service on distance, and it is probable that if a scale of rates graded on distance were worked out the situation in practice would be an unworkable one. It is the practice, then, of telephone companies to define certain areas within which the flat rate applies. This may be worked out at a certain distance from the Exchange, or it may be worked out as delimited by the boundary of the municipality. In this case, the eastern boundary of the city of Ottawa applies.

It is, of course, obvious that in applying a zone rate there has to be some point of demarcation, because if mere proximity to a section enjoying a certain zone rate is to be taken as a reason for extending that zone rate into the adjacent section, then the same line of reasoning might be urged for further and further extensions, bringing about an admittedly absurb situation.

In the city of Ottawa, a relatively high telephone development has been worked out, and the rates within that area have been built up not with a view to the cost of construction of a particular line, but with a view to an average; and as already pointed out the telephone users beyond the eastern boundary of the city of Ottawa located in Rockliffe are in the position of using within the city of Ottawa a circuit equal to the longest used in the eastern part of the city of Ottawa by the telephono user resident therein and calling up the telephone exchange.

V

On April 26, 1911, the Board had before it the application of the town of North Toronto requiring the Bell Telephone Company to reduce its tolls for residence and business to the same rates as applied in the city of Toronto. North Toronto was a separate municipality with about 157 telephones. These rates as charged were the Toronto rates, plus the excess mileage from the nearest exchange. The nearest exchange was North Exchange at the corner of Haydon and Yonge streets.

The rate to North Toronto was based on the city of Toronto rate, plus the excess mileage computed from a point one-half mile air line from the North Exchange. Counsel stated that his instructions had been to apply for the Toronto rates to be made applicable to North Toronto, but on looking into the matter he could not see that he could sustain the contention; at the same time he urged that the existing disparity in rates was too great.

The matter was dealt with in an oral judgment of Chief Commissioner Mabee. In the course of discussion, it was pointed out by the Chief Commissioner that if the people of North Toronto were not in touch with the Toronto Exchange there would have to be a separate toll for connection with Toronto, and that might work out disadvantageously to them. It was pointed out by the company that what was wanted by the residents of North Toronto was not a local service but connection with the city of Toronto. The one-half mile distance from the North Exchange, as the point from which the mileage was to be computed, was the average length of all the city lines at the time the rate was established. As a result of a subsequent inventory taken by the company, a readjustment was made whereby the excess mileage would be computed from a point .75 of one mile from the North Exchange.

In dealing with the matter in his oral judgment, the Chief Commissioner asked counsel for the applicant why, aside from the question of the amount of excess mileage charge, it was not reasonable to take the average length of the city's line as the starting point for the excess mileage charge. Counsel admitted that there had to be taken into account the fact that the subscriber resident in North Toronto got the advantage of all the city's exchanges. It was held by the Board, as set out in the judgment of the Chief Commissioner, that the proposition as made was fair, and that the telephone company was putting the user outside the city limits as nearly as could be on the same basis as the user within the city limits.

In addition to the case above referred to, in which the principle of having excess mileage charges was approved of, other cases have also brought up the same matter.

In the case of *Dominion Park, Montreal vs. Bell Telephone Company, Board's File 10501,* in which judgment was rendered April 27, 1910, excess mileage charges were recognized by the Board as an existing practice.

In the *Nelson Case, Board's File 13219,* which was decided March 24, 1910, it was held by the Board that the extra mileage charged to Westboro was to be computed from the city limits of Ottawa as then existing.

In the *Montreal Telephone Case, 15 Can. Ry. Cas., 118,* which was decided in 1912, the excess mileage computation was recognized.

In the second *North Toronto Case, File 21617,* in which decision was given March 8, 1913, there was an application, *inter alia,* to extend the flat rate of the city of Toronto to North Toronto which had recently been annexed to the city of Toronto. Although there was a considerable development in the section in question, it was held that the Board was not justified in directing the Toronto rates to cover North Toronto. Direction was given that the excess mileage should be computed from the city limits as they were January 1, 1911.

The matter was also before the Board on September 10, 1918, *Board's File 3574.205,* in the matter of the complaint of Mr. J. A. Seybold, Ottawa, against increase in rates for telephone service to Kingsmere, Que., from $135 to $197 per annum. What was here involved was the substitution of the actual rate measurement for the aerial line basis hitherto existing. No exception was taken by the Board to the practice of having excess mileage charges.

While, as it appears to me, the material thing is the ruling of the Board as set out, *e.g.,* in the first North Toronto case, that it was reasonable and proper to have excess mileage charges, reference may also be made to the fact that excess mileage charges, where people living outside of a developed telephone area are desirous of *obtaining not a toll rate service but a continuous service with the area aforesaid, are* according to the general practice, both in Canada and the United States. Some years ago I had occasion to satisfy myself of this.

Without developing the matter in detail, it may be noted that the Nova Scotia Board of Commissioners of Public Utilities, by its decision of July 18, 1919, provided for classification of exchanges. Each of these exchanges was given a defined free mileage area varying from one-half mile to one and a half miles, with a special arrangement whereby in the case of Halifax there was free mileage allowed within the city limits and within one mile of Dartmouth Exchange. For those resident in the circuit beyond the limit of free mileage and desirous of obtaining local exchange service, the rate was built up of the local exchange rate, plus a defined excess mileage charge.

Effective July 31, 1920, the New Brunswick Board of Public Utilities in its classification of Exchanges Rates and Regulations for telephone service applicable to the New Brunswick Telephone Company, Limited, provided for a grouping in six groups free mileage of one mile from an arbitrary centre being allowed in each case; and it was further provided that mileage charges will be charged for all local exchange service stations located beyond one mile air line distance from the central office or arbitrary centre of population in each exchange, measurements being based on circuit distance.

VI

As already indicated, counsel for the applicants was of opinion that if there was to be an excess charge it should not be based upon a general excess mileage scheme but should be correlated to the particular conditions of the locality affected. The system of excess mileage charges in vogue prior to the increase in rates recently allowed, which increase is applicable on excess mileage charges as well, was one, in the case of points served from the Ottawa Exchange but beyond the free area, of $5.50 per quarter

mile. This rate is applicable for a single-party line in Toronto, Montreal, Ottawa, Quebec. All other exchanges had a charge of $4.40.

The Rockliffe plant has been constructed at various periods. The following material averaged on prices existing 1912-17 has been submitted showing the investments of the Bell Telephone Company in Rockliffe police village, and has been subject to check by the Board's Electrical Engineer:—

INVESTMENT ROCKLIFFE POLICE VILLAGE, ONT.

Outside Line Plant	Cost
Pole Lines, consisting of—	
5.25 ft. poles	
139.30 " "	
21.35 " "	
Anchors, guys and other attachments..	$1,555.31
Wire, consisting of—	
25,600 ft. twisted pair rubber insulated..	592.00
Aerial Cable, consisting of—	
2,120 ft. 15 pair No. 22 gauge	
1,420 " 25 "	
2,825 " 25 " No. 19 "	
2,260 " 50 " No. 22 "	
1,525 " 50 " No. 19 "	
620 " 100 " No. 19 "	
With messenger, terminals, etc..	3,175.33
	$5,322.64
Drop wires, sub-station equipment and installation..	1,624.61
	$6,947.25

It is further stated that there is an item covering cable, wire, etc., erected since 1913, amounting to $578.93, which has been omitted. It does not appear necessary for the purpose of the computation made below to include this figure. In the total as given above, the item of drop wires, special station equipment and installation, amounting to $1,624.61, enters into the total of $6,947.25. In order to get at the plant and investment figures, the item covering drop wires, special station equipment and installation is omitted, as these items are constant and are not related to the mileage charge. At the same time, in making up an exact computation they constitute an item in connection with which the question of expenses and revenues should be considered.

Taking the plant and investment figures located in Rockcliffe village at $5,322.64, the detail available shows some seventy-three lines in use with an average investment per line of $72.90. As two wires are necessary for a telephone user, the mileage of circuits in use within the village of Rockcliffe is a material factor. This amounts to 45 miles. This would give an average investment per circuit mile of $118.26. There are some twenty-seven spare pair conductors in the main cable. The cost, however, in this connection is not used as a corrective factor in obtaining the average cost per mile of circuit.

The company submits that against the $5,322.64 of investment, there are annual charges of approximately 21.1 per cent, or $1,123.08. This percentage is made up of depreciation, repairs, administration, taxes and interest. While it would appear proper to allocate to the investment a proportion of the operating costs, this is not done.

In the recent judgment of the Board, it was held that as an emergency depreciation rate 4 per cent should be made use of. For repairs, the company gives a figure during 1919 of 5 per cent.

It states that the aerial repairs for 1920 on the average aerial plant was 6.388 per cent.

The current maintenance charges during 1920 averaged against the average plant in service in December, 1920, checks out at 6.31 per cent.

Administration is given as 1 per cent. This on the basis of the figures for December, 1920, for general expenses checks out at .93 of 1 per cent. Taxes are shown at 1.5 per cent. This amounts to $71.76. Interest is included at 6 per cent.

Under the Board's judgment, it was held on the evidence of the witnesses upholding the application that 8 per cent was a reasonable dividend. It was further held that a surplus of 2 per cent was not unreasonable.

The following figures may, therefore, be used:—

	Per cent	
Depreciation	4	$212 94
Repairs	5	266 18
Administration	0.93	49 50
Taxes	1.5	71 76
Dividends	8	425 89
Surplus	2	106 45

The revised charges as computed above come to $1,132.55 annually.

As set out in the company's letter, the revenue from the excess mileage charges computed on the one-half mile basis under the "locality" rate amounts to $792, less $25 which is paid to the Ottawa Electric Company for contract space on its poles.

The reduction in excess mileage as a result of applying the locality rate amounts to $181.50. There is, therefore, deducting the $25 referred to, $968.50 of excess mileage revenue to check against costs as given above. If to the $968.50 there is added 12 per cent, this gives a revenue from excess mileage charges of $1,084.72 to check against the costs as already given.

VII

The exchange tariff at present applies within the municipal limits of Hull, Que., and Ottawa, Ont., as they existed as of April 4, 1912. Outside of the base rate area as so defined excess mileage applies

In the course of the hearing counsel for applicants referred to the fact that a telephone user in Hull had the Ottawa Exchange service without any excess mileage; and this was referred to as being the measure of the discrimination existing against Rockcliffe.

Counsel for the telephone company stated that in the days of exclusive agreements the Telephone Company had an agreement with Hull; that this dated back as far as twenty-five years. Under this agreement, Hull was to enjoy the Ottawa rate. The agreement was not renewed on its expiration. It was also pointed out that it is only in recent years that there had been a rapid development in Hull, and that the existing number of subscribers did not justify opening an exchange in that city. The situation was stated to be one which the company was considering, but no conclusion had been arrived at as to whether there would be a separate exchange in Hull with a toll rate to Ottawa, or whether there would be an exchange with a re-arrangement as to rates.

In so far as an agreement is relied upon as a justification of a difference in treatment, this is not justifiable if the difference in treatment amounts to an unjust discrimination. As was stated in the *Regina Board of Trade Case,* "The 'circumstances and conditions' which if not substantially similar may justify different treatment to different points, I think must be traffic circumstances or traffic conditions; not circumstances and conditions which may be artificially created by contract". *Regina Board of Trade vs. Canadian Pacific and Canadian Northern Ry Cos., 11 Can. Ry. Cas. 380, at p. 391.*

If the terms of an existing agreement do not justify such a difference in treatment as amounts to unjust discrimination or undue preference, the case is still stronger where the agreement has expired and an arrangement entered into in the first instance in return for consideration simply continues as a practice.

The Telephone Company has extended the base rate area so as to cover the municipal limits of Hull as they existed as of April 4, 1912. The maximum distance, air line, from Queen Exchange to the Hull city limits at present covered by this tariff is 17,300 feet; that is to say, the Telephone Company holds itself out as prepared to give a telephone service without any excess mileage charge within this distance in the city of Hull.

The city of Hull is separated from the city of Ottawa by the Ottawa river. The police village of Rockliffe is adjacent to the city of Ottawa, and the eastern boundary of Ottawa is for some distance coterminous with the western boundary of Rockliffe.

In the *city of Montreal vs. Bell Telephone Co., 15 Can. Ry. Cas., 118, at p. 139,* the situation was that a flat rate was extended to Montreal West, a separate municipality, while a similar arrangement was refused a section of the Montreal Exchange territory situated at a similar distance from the Main Exchange. It was held that the existing arrangement was discriminatory; and it was further set out:—

> "Whatever be the exact distance from the Main Exchange to the furthest point of Montreal West which is given the flat Montreal rate, this distance should be taken as the radius of the zone to be described, with the Main Exchange as a centre from the west to the east of Montreal Exchange territory as at present constituted, and within the zone so determined the Montreal flat rates should be made applicable."

In the present instance, what is involved is the difference in treatment between one municipality outside the corporate limits of Ottawa, the city of Hull, as compared with the police village of Rockliffe, another municipality outside of the city of Ottawa. The difference in treatment, in my opinion, amounts to an unjust discrimination. So long as the city of Hull is continued within the limits of the territory connected up with the Ottawa Exchanges and not subject to any excess mileage, similar treatment should be accorded to Rockliffe within the distance limited by the maximum air line distance from Queen Exchange to the boundaries of Hull as of April 4, 1912.

The police village of Rockliffe is a residential area which, for the purpose of telephone service is separate and distinct from the county. The various sections comprised within its area are less distant from the Queen Exchange than are the extreme limits of the city of Hull, as above referred to.

The readjustments necessitated by the finding above referred to should apply to the village of Rockliffe as at present constituted and extend no further at present. If and when the limits of the village, or whatever municipality may succeed it if there is a change in status, are extended up to a distance east of Queen Exchange equal to that now intervening between Queen Exchange and the Hull City limits as of April 4, 1912, this area will fall within the free territory of Rockliffe, or its successor, provided that the condition in respect of Hull service free from excess mileage, which is the measure of present discrimination, still exists.

The readjustment herein provided for should be effective on one day's notice.

FUEL DEALERS' ASSOCIATION OF GREATER WINNIPEG, *et al, re* REDUCTION IN RATES ON COAL IN WESTERN CANADA FROM APRIL 1 TO OCTOBER 1, IN EACH YEAR

Judgment, Chief Commissioner Carvell, May 21, 1921, concurred in by the Assistant Chief Commissioner and Commissioner Rutherford.

This case was heard by the Board at a sittings in the city of Winnipeg on the 27th day of April last, and, in substance, is an application on behalf of coal producers and coal dealers in the provinces of Alberta, Saskatchewan, and Manitoba for a reduction in freight rates of 20 per cent on coal from all collieries in Alberta and Saskatchewan up to and including the 31st day of August, 1921.

It was alleged by the representatives of the Drumheller district that the producers would make a reduction of 70 cents per ton during this period and by Mr. Walker, who represented the coal operators of northern Alberta, that they were willing to reduce their price by 50 cents per ton on the condition, of course, that the freight rates were reduced as requested. The dealers of Winnipeg and representatives of dealers in other western cities agreed to make a reduction of 50 cents in the distribution cost during the same period.

The proposal was objected to by the railway companies, and especially by Mr. Lanigan, of the Canadian Pacific Railway Company, on the ground, first, that no great amount of coal would be moved because of the friable character of the domestic coal of the Drumheller and Lethbridge districts, and, secondly because of his belief that the dealers would only stock up with coal during the last few weeks of the period and after the 1st of September sell for the old price.

So far as I am aware, we have no precedent for any such action, and, therefore, must approach the matter entirely anew and on the good faith of all the representations made at the hearing. The Board has power to order a reduction in rates by the railway companies, but has no power whatever over either coal producers or dealers, and, therefore, if anything be done, so far as these parties are concerned, they must be taken to be acting in good faith with the intention of loyally carrying out the undertakings which they have made and upon which this application was heard.

The application is made primarily, I presume, that the consumers in many of the western cities and towns will be able to receive somewhat cheaper coal than under present conditions, and, if this can be worked out without doing any great injury to any of the parties concerned, it is an object worthy of the most serious consideration of this Board, because the present price of Drumheller coal in Winnipeg, namely, $15.60 per ton, is a very serious tax upon the ordinary householder and, when applied to steam coal, an equally heavy tax upon industries of all kinds requiring steam power—in fact so serious that it is doubtful if the Winnipeg market can be held for Canadian coal under these conditions.

Evidence was given as to the cost of labour in producing coal in the Alberta fields according to the instructions of Mr. Armstrong, representing the Department of Labour at Ottawa, who are the Fuel Controllers for District No. 18, and Mr. Dick, representing the coal operators of Calgary, stated as follows (p. 5716):—

> "As I was going on to say with regard to labour, there is no doubt that the miner to-day is being paid out of all proportion to what skilled men are getting in other occupations. The minimum wage on the surface is $7.20 a day, and $7.50 a day underground. He works eight hours, from the time he leaves the surface until the time he gets back to the surface again. The miner averages $12 a day, and many of them are getting over $20 a day. We could remove a great portion of their argument if we could guarantee to them 300 days operations in a year. If that were the case, I venture to say the cost of coal would come down $2 a ton at the mine below what it is to-day."

It was also stated that the operators are under contract with the United Mine Workers of America at these wages until March, 1922.

In addition to the argument that cheaper coal might thus be available in Western Canada, it was strongly alleged that every ton of coal moved up to the end of August over and above the normal amount would release just so much equipment for use in the handling of grain thereafter, and it is this feature of the question even more than the question of cost that operates on my mind in arriving at a conclusion.

It is a well-known fact that, up to about two years ago, American coal was used almost exclusively in Manitoba and as far west as Regina or thereabouts in Saskatchewan. During the past year, the Government of the province of Alberta has

been making a determined effort to capture the Winnipeg market. When American coal was used freely, wheat and coal became a well-balanced movement. Cars came to the head of the lakes loaded with wheat and returned with coal; whereas, under present conditions, if Alberta coal is to be used, both movements are in the same direction and empties must be carried from the head of the lakes to Alberta for the handling of both commodities, and, therefore, anything that will relieve the car situation in the months of September, October, and November is a matter of such great importance that I feel the Board is not only justified but should take action to endeavour to some extent at least to prevent a recurrence of the conditions experienced in Western Canada during the autumn months of 1920. It is alleged, and I believe truly alleged, that in very many cases, especially on the C. N. R. lines, farmers were unable to sell their wheat when they could have received from 50 cents to $1.00 a bushel more than they afterwards received had the necessary equipment been available, but, as coal had to be provided, millions of bushels of grain were left in the elevators or in the farmers' granaries, which had to be disposed of at a later date at a greatly reduced price. It has been brought to my attention that a Bill is now before the United States Congress to provide for a seasonal movement of coal in that country very much along the lines of that suggested in this application. While I realize it may result in some slight loss to the revenues of the railway companies, yet I feel the application should be granted in part as an experiment with the earnest hope that it will produce the results claimed for it and which would be of such material benefit to both producers and consumers in Western Canada.

In arriving at this conclusion, I have not been able to convince myself that any serious financial loss will result to the railways. In the first place, it is well known that there are thousands of empty cars standing on sidings all over Western Canada to-day which could be used to some extent at least in this movement, and, again, I believe that coal can actually be moved from Alberta points to Winnipeg for 50 cents per ton less up to the end of August than it can be in the late autumn months.

I do not think, however, we would be justified in granting a 20 per cent reduction in the rates on coal, because it must be remembered that the maximum increase granted on coal by the general order of this Board, No. 208, in September last, was only 20 cents per ton, and, as the rate from the Alberta fields to Winnipeg runs from $4.90 to $5 per ton, the actual increase granted would amount to less than 5 per cent, whereas other commodities were increased 35 per cent up to the end of December and 30 per cent thereafter.

As before stated, this is being done entirely in the belief that both producers and dealers will loyally carry out their agreement, and, while this Board has no power over them, yet it will carefully check up conditions for the purpose of ascertaining the manner in which the arrangement is carried into effect, and, in arriving at this conclusion, it is to be understood that it is purely an experiment in the hope that the beneficial results hereinbefore referred to may materialize. It shall not be considered as a precedent for a reduction in the rates on coal or any other commodity in any other part of Canada, because the same conditions do not apply and there will not be, in fact there cannot be, the same equipment conditions elsewhere. Neither is it to be treated as a precedent for another year, and, unless the agreement is faithfully carried out not only as to the sale of coal up to the last day of August but as to the sale of coal transported under this arrangement sold after that date, future applications of this kind to this Board will be summarily dismissed.

For these reasons, I think an order should issue directing all the railway companies of Canada subject to the jurisdiction of this Board interested in the coal movement in the three prairie provinces to reduce all rates on coal from mines in Alberta and Saskatchewan to points in the provinces of Alberta, Saskatchewan, and Manitoba by 10 per cent, including coal actually billed out up to and including the 31st day of August next; the companies to file tariffs to this effect, effective on the 1st day of June next.

STANDARD TRACK CENTRES

Judgment, Assistant Chief Commissioner McLean, May 23, 1921, concurred in by the Chief Commissioner, Deputy Chief Commissioner, and Commissioners Boyce and Rutherford.

As a result of investigations by the Board's officials, the following Circular No. 157 was issued:—

> "*File 28290. Standard distance between track centres for construction of divisional points, terminal sorting yards and sidings.*
>
> "The Board is considering the advisability of establishing a standard distance between track centres for the construction of divisional points, terminal sorting yards, and sidings, which will provide a safe and satisfactory clearance for the movements of trainmen and yardmen in the performance of their duties.
>
> "Railway companies subject to the jurisdiction of the Board are requested to file their views upon the matter within thirty days from this date, stating what clearance, in their opinion, would provide the necessary room between moving cars for the men referred to while carrying on their work."

In response to this, detailed submissions were made by the individual railways, which were in accordance with the conclusions arrived at at a meeting attended by the Engineers of the Canadian Pacific, Canadian Northern, Michigan Central and the Grand Trunk Railway Companies. The recommendation which follows was a recommendation for a minimum distance between tracks for various uses, with the proviso that these recommendations should be applied to new construction.

	Feet
Main track	13
Main and passing tracks	13
Main or running track and parallel yard track	13
Receiving, Classification and Departure yard track	13
Parallel Ladder tracks	16
Ladder and other tracks	15
Freight shed tracks (A.R.E.A.)	12
Passenger Station tracks (without platform between)	13
Storage tracks	12
Team tracks in pairs	12

A representation is on file from Mr. Murdock, Vice-President of the Brotherhood of Railway Trainmen, stating that on account of the increased or increasing size of cars and engines the distance between parallel ladder tracks in yards should not to be less than 14 feet centres. Other representations from the Brotherhood of Railway Trainmen to the same effect have been submitted.

The matter was set down for hearing on January 7, 1919. The Engineering Departments of the leading roads prepared a statement which was filed at the hearing and which reads as follows:—

> "1. *Main tracks*—13 feet centre to centre.
>
> "To place main tracks at a sufficient distance apart to render safe the occupation of the space between them by men during the passage of trains on both tracks would necessitate such a distance as to be altogether out of the question. This means that it will always be unsafe for men between tracks on main line and therefore the closer together the tracks can be placed with safety to the equipment, the less danger is there of men attempting to remain between them during the passage of trains. Thirteen feet is at present universal practice throughout America; it fulfills the requirement as to safety of equipment and is also so close as to make it extremely dangerous for men to remain between tracks while two trains are passing. It is the universal rule for railways that

men stepping aside for passing trains must step to the outside of both tracks and not to the space between the tracks. We would recommend that 13 feet be retained as the standard distance between main tracks.

"2. *Main and Passing tracks.*—13 feet centre to centre.

"The object of a passing track being to permit a train to stand while being met or passed by other trains gives in one sense, the same condition as obtains with main tracks, the only difference being that, in this case, one train is standing while the other is moving. This difference, however, means that men caught between tracks have every forty feet throughout the length of their train a refuge into which they will naturally step to protect themselves from the passing train and the possibility of anything projecting or flying from it. We would recommend that 13 feet be established as the minimum distance between main and passing tracks.

"3. *Main or Running Track and Parallel Yard Tracks.*—13 feet centre to centre.

"This distance centre to centre of tracks is considered as a minimum only and is quite sufficient on light traffic lines where trains are infrequent and do not attain to high speeds customary on main lines. On main lines, all of the roads represented in this recommendation have adopted as their practice a greater distance than 13 feet, but we do not feel that anything greater than this should be adopted as a minimum.

"*4 to 10 inclusive,* cover tracks used for such a variety of purposes and these under such dis-similar conditions that one class of tracks in a given yard or section of the country may require an entirely different distance centre to centre from the same class of tracks in another yard or section of country.

"The requirements of storage tracks, where movements are very infrequent, may be such as to involve a tremendous waste in using anything greater than 12 feet centres.

"Freight shed tracks have been worked for years at 12 feet centres and even less, and the manner of working these should certainly determine the necessity for anything more than 12 feet at any given location.

"Team tracks in pairs it would seem need no argument as there is one clear side to each track, which should preclude the necessity for men ever having to go between the tracks themselves.

"The numbering in the above agrees with the statement attached."

In written submissions filed before the hearing, Mr. Murdock in urging that there should be 14-foot clearances from track centres urged that this was essential, not only from the standpoint of safety but also from the standpoint of having sufficient clear way between the tracks to give proper working signals to other members of the switching crew; and he emphasized again the increased size of cars and engines.

In a representation made by Mr. Best, the legislative representative of the Brotherhood of Local Firemen and Engineers, the same positions were emphasized; and it was also stated that it appeared desirable that tracks should be located at such distances as would ensure no obstruction closer than two feet from the widest cab or car in operation.

At the hearing, the railways set out that without a limitation on the width of cars it was of little value to fix a clearance, and it was represented, therefore, that the matter should stand until the question of the width of equipment could be dealt with.

Some years ago, the Board had before it in connection with the question of automobile cars a proposition as to limiting the size and height of cars, but it was found impossible to make direction at that time.

Mr. McGovern, on behalf of the men employed in train and yard service, in arguing for a 14-foot centre, said this would leave a width of 3 feet 6 inches with the

widest ear. A considerable amount of information was given by witnesses in regard to local conditions. Judgment was reserved.

The investigations which the Board's Engineering and Operating Departments had been conducting prior to the hearing were conducted subsequent thereto; and as a result of the material collected and evidence submitted at the hearing the following recommendation was made by the Engineering and Operating Departments of the Board:—

	Ft.	In.
1. Main tracks	13	
2. Main and passing tracks	14	
3. (Main or running track) and parallel yard tracks	14	
4. Receiving, sorting and classification yard tracks	13	6
5. Storage tracks	13	6
6. Parallel ladder tracks	18	
7. Ladder and other tracks	15	
8. Freight shed tracks	12	
9. Team tracks in pairs	12	
10. Passenger station tracks, without platform between	13	

The recommendations have been checked against those applying in railway practice in the United States. Items 4 and 5, under American practice, vary from 13 feet to 14 feet. The standard width of 13 feet 6 inches, which is recommended appears to me to be reasonable. The Chief Engineer advises that the only road he knows of which is using the parallel ladder tracks is the Canadian Pacific. I am of opinion that items Nos. 1 to 10, as set out, may be accepted and order drawn accordingly.

An important question has been raised in regard to the effective date. A proposition has been placed before the Board that the tracks now in place should be adjusted to the minimum distance prescribed, such readjustments to be made by a definite date. I am of opinion that all tracks put in place from January 1, 1922, should be subject to the minimum distance set out in the extract above from the report of the Engineering and Operating Departments.

With regard to the suggestion that the tracks now in place should be taken up and readjusted to this limited distance by the end of a definite period, on careful consideration, I have to say that I am unable to agree to this. I have a thorough appreciation of the element of human safety involved and am entirely in agreement with the proposition that the best possible precautions in this respect should be taken. The matter is not one which is measured in terms of dollars. In considering, however, the whole situation, one has to remember the effect that would be exercised on the space for cars, and the fact that established business has to be carried on. To direct that by a definite date there should be a readjustment complying with the minimum distances would dislocate business, and it would mean in various instances a serious curtailment of space. Where yard accommodation is located in a closely settled section of a city, it would mean that additional space could be obtained only at great inconvenience to the public and at almost prohibitive cost.

While it does not seem to me that a definite date can be fixed, the railway should have a continuous readjustment in mind; and I, therefore, think it would be justifiable to provide that in case of any tracks now in place which are rearranged as and from January 1, 1922, the rearrangements should be in compliance with the minimum clearances.

Where there are existing clearances less than those recommended, the burden is on the railway, where danger of accident arises from such clearances, to provide proper means of operating so as to adequately safeguard those who are working under such conditions.

STANDARD FREIGHT AND PASSENGER TARIFFS, LAKE ERIE AND NORTHERN AND GRAND RIVER RAILWAY COMPANIES AND GENERAL ORDER NO. 308.

Judgment, Assistant Chief Commissioner McLean, June 1, 1921, concurred in by the Chief Commissioner, Deputy Chief Commissioner, and Commissioner Rutherford.

In both of these applications, what is asked for is approval of the tariffs in question so as to permit the becoming effective on these lines of the rates authorized under General Order No. 308.

The applications were filed subsequent to the issuance of said order. In support of them, there were submitted statements showing in the case of the Lake Erie and Northern Railway Company the actual earnings and expenses for the year ending June 30, 1920; also a statement of estimated earnings and expenses for the year ending June 30, 1921, showing tonnage for the year ending June 30, 1920, and expenses at the then existing costs, plus increases in wages to be granted.

In the case of the Grand River Railway Company, similar details were furnished, except that the comparative dates were September 30, 1920, and September 30, 1921, respectively.

Subsequently additional statements were submitted bringing the actual results in each of the applications down to the end of the year ending November 30, 1920, there being submitted in each case an estimated result for the year ending November 30, 1921. This assumed the same volume of traffic as in 1920 with increased rates as applied for and estimated increased operating costs.

In order that the latest possible detail for a full 12-months period should be before the Board, the railways were directed to file the actual results for the year ending December 31, 1920. This material is now before the Board.

When the applications were launched, various protests were received. The city of Brantford filed the following protest affecting both the Grand River Railway and the Lake Erie and Northern Railway:—

> "That it having been brought to the attention of this council that permission has been asked of the Board of Railway Commissioners by the Grand River Railway and the Lake Erie and Northern Railway for increased rates, and as these roads enjoy a very large business and in our opinion cannot be said to compete with the steam roads, as from their favoured positions in the various towns and cities they have a very great advantage.
>
> "These roads carry 95 per cent of the passenger business and have the field practically to themselves, and an increase in rates would be a hardship, especially to the working people who make such a large use of the electric cars in this vicinity.
>
> "Therefore we would respectively urge upon your honourable body that the necessity of increased rates be established before any increase is granted, and that this resolution be forwarded to the Board of Railway Commissioners."

A protest was filed by the town of Hespeler which read as follows:—

> "That it having been brought to the attention of this council that permission has been asked of the Board of Railway Commissioners by the Grand River Railway and the Lake Erie and Northern Railway for increased rates, and as these roads enjoy a very large business and in our opinion cannot be said to compete with the steam roads, as from their favoured positions in the various towns and cities they have a very great advantage.
>
> "These roads carry 95 per cent of the passenger business and have the field practically to themselves, and an increase in rates would be a hardship especially to the working people who make such a large use of the electric cars in this vicinity.

"Therefore we would respectively urge upon your honourable body that the necessity of increased rates be established before any increase is granted, and that this resolution be signed by the mayor and clerk and forwarded to the Board of Railway Commissioners."

The city of Galt filed a protest as to the increase, said protest being identical in terms with that filed by the town of Hespeler, as did also the town of Paris.

While reference is made both to freight and passenger increases, the protest as worded in reality concerned itself with the proposed increase in passenger business.

The increases allowed under General Order 308 on passenger business automatically expire on July 1, 1921; and I am of opinion that with the short time intervening an increase in this respect should not be allowed.

There remains for consideration the question of the freight rate increases.

While the type of passenger business concerned may, possibly, on account of electric traction and higher frequency of trips be differentiated from the situation so far as steam lines are concerned, it does not seem to me that the same grounds of differentiation exist in regard to freight business.

The Grand River Railway, which has some 21 miles in operation, covers a distance of 15.03 miles between Galt and Waterloo. From Galt to Kitchener, there is competition with the Grand Trunk in the carriage of freight. There is a Grand Trunk branch between Galt and Kitchener handling local freight, said branch being 12.9 miles in length. In the case of traffic originating, say, at Brantford, on the Lake Erie and Northern, the Grand Trunk branch line between Galt and Kitchener is not available on account of the river intervening at Galt, and so the traffic from Brantford to Kitchener moving over the Lake Erie and Northern would have a mileage of 33.9 as against the Grand Trunk movement, via Guelph, of 47.22 miles.

The operating revenue of the Grand River Railway Company for the year ending December 31, 1920, was $370,253.98. Its operating expenses amounted to $303,787.72, leaving a net operating revenue of $66,466.26. The company submits in this statement an item for depreciation of $11,050. Deducting this, there would be a net earnings of $55,416.26.

The Board has so far not passed upon the question of depreciation in connection with electric railways. In the view I take of the matter, it is not necessary in the present connection either to pass upon the propriety of depreciation as a factor to be computed in electric railway business, or the rate at which it should be computed.

The company, taking the same volume of business for 1921 as for 1920, and assuming the rate increases asked for, computes a total of $447,518.72, as against $370,253.98 for 1920.

Attention may be drawn in passing to the fact that the increase computed in passenger business, viz., $15,580, is computed on a year's business. If it were allowed, there would be only one month of additional revenue from this source, giving a total in round numbers of $1,300.

Against the operating revenues of $447,518.72 so computed, the company computes operating expenses of $366,924.32, giving net earnings of $80,594.40.

The company pays yearly taxes of $6,467.38, and bond interest at 4 per cent on $426,000, amounting to $17,040. In addition, advances have been made by the Canadian Pacific Railway Company to the Grand River Railway Company for road and equipment. These as of December 31, 1920, amounted to $470,000. The first advance in 1920 was made in June. Two advances in that month amounted to $54,700. Monthly advances were made varying from $93,000 in July to $49,000 in September, the advance for December being $75,000. The interest at 6 per cent on the amounts as advanced from time to time totals $7,125. Figures are available for the four months ending April, 1921. Over and above the $470,000 already referred to, the Canadian Pacific Railway Company has advanced to the Grand River Railway Company in the months in question $299,000. This, if extended on the same basis

for the year 1921, would make the debt of the Grand River Railway Company to the Canadian Pacific Railway Company at the end of December, including the $470,000 already referred to, $1,367,700. The debt, however, as computed is less than this, amounting to $1,164,582, and the interest on this amounts to $56,972.40. The operating ratio as computed on the actual figures for 1920 is 82 per cent; on the figures computed for 1921 it is 81.9 per cent.

The estimate for 1921 as submitted by the railway is as follows:—

"ESTIMATED RESULTS YEAR ENDED DECEMBER 31, 1921, ASSUMING SAME VOLUME OF TRAFFIC WITH INCREASED RATES AS APPLIED FOR, AND ESTIMATED INCREASED OPERATING COST

"Operating Revenue—		
"Freight (through)		$221,488 37
"Freight (local)		10,950 66
"Switching		16,392 87
"Passenger		171,380 01
"Baggage		290 11
"Other		27,016 70
		$447,518 72
"Operating expenses		366,924 32
"Net earnings		$ 80,594 40
"Less: Increase in per diem exp.	$ 4,847 60	
"Depreciation	33,432 75	
		38,280 35
		$ 42,314.05
"Further deductions—		
"Taxes	$ 6,467 38	
"Bond interest (4 per cent of $426,000)	17,040 00	
"Interest on advance for road and equipment	56,972 40	
		80,479 78
"Net deficit		$38,165 73

I have subjected this to revision on the basis of freight increases alone, with the elimination of depreciation and increase in per diem expenses. In doing so, I express no opinion upon the propriety of these items, their elimination is simply for greater caution in an endeavour to get as exact a basis of computation as possible.

Operating Revenue—		
Freight (through)		$221,488 37
Freight (local)		10,950 66
Switching (same as last year)		16,392 87
Passenger (same as last year)		155,800 01
Baggage (same as last year)		263 74
Other (same as last year)		27,013 70
		$431,909 35
Operating Expenses (81.9 per cent)		353,733 75
Net earnings		$ 78,175 60
Other deductions—		
Taxes	$ 6,467 38	
Bond interest (same as last year)	17,040 00	
Interest on advances for road and equipment	56,972 40	
		80,479 78
Net deficit		$ 2,304 18

The company has a capital stock of $125,000. Allowing the increase in freight rates as asked for and deducting certain items, as indicated, it would appear that even with this increase there is, before any allowance is made for dividends on the capital stock, a deficit of $2,304.18.

The Lake Erie and Northern Railway Company's estimated results for the year ending December 31, 1921, are computed on the same basis as in the case of the

Grand River Railway Company. This estimate is subject, in the case of passenger revenue, to the same correction as set out in the case of the Grand River Railway Company.

The yearly taxes are $8,585.86. The bond interest at 4 per cent on $2,317,500 amounts to $92,700. The Canadian Pacific has also made advances for road and equipment to the Lake Erie and Northern Railway Company. As of December 31, 1920, these amounted to $151,000. The advances made from January down to April, 1921, inclusive, amount to $73,000, which, if extended on the same basis throughout the year, would amount to $219,000, which added to the $151,000 already referred to would give a total of $370,000 of indebtedness to the end of December, 1921. This amount is some $13,000 less than the computation which the company gives. The interest on the debt is charged at 6 per cent and amounts to $15,300. The operating ratio for 1920 is 84.6 per cent; as computed for 1921 it is 89.5 per cent.

The following statements show actual results for 1920 and also computation of results for 1921:—

ACTUAL RESULTS FOR YEAR ENDED DECEMBER 31, 1920

Operating Revenue—		
Freight (through)		$ 99,352 23
Freight (local)		20,623 10
Switching		3,789 15
Passenger		199,470 63
Baggage		149 00
Other		26,428 79
		$349,812 90
Operating expenses		296,116 86
Net earnings		$ 53,696 04
Less depreciation		12,512 50
		$ 41,183 54
Further deductions—		
Taxes	$ 8,585 86	
Bond interest (4 per cent of $2,317,500)	92,700 00	
Interest on advances for road and equipment	3,281 66	
		104,567 52
Deficit		$ 63,383 98

ESTIMATED RESULTS YEAR ENDED DECEMBER 31, 1921, ASSUMING SAME VOLUME OF TRAFFIC WITH INCREASED RATES AS APPLIED FOR, AND ESTIMATED INCREASED OPERATING COST

Operating Revenue—		
Freight (through)		$134,125 51
Freight (local)		27,841 19
Switching		3,789 15
Passenger		219,417 69
Baggage		163 90
Other		26,428 79
		$411,766 23
Operating expenses		350,083 38
Net earnings		$61,682 85
Less: Increase in per diem exp.	$ 1,474 50	
Depreciation	12,512 50	
		13,987 00
		$47,695 85
Further deductions—		
Taxes	$ 8,585 86	
Bond interest (4 per cent of $2,317,500)	92,700 00	
Interest on advances for road and equipment	15,300 00	
		116,585 86
Deficit		$ 68,890 01

I have made a revision of the estimate making deductions therefrom similar to those which were made in connection with the Grand River Railway Company's estimate, as follows:—

Operating Revenue—		
Freight (through)		$134,125 51
Freight (local)		27,841 19
Switching (same as last year)		3,789 15
Passenger (same as last year)		199,470 63
Baggage (same as last year)		149 00
Other (same as last year)		26,428 79
		$391,804 27
Operating expenses (at last year's ratio 84.6 per cent)		331,466 41
Net earnings		$ 60,337 86
Other deductions—		
Taxes	$ 8,585 86	
Bond interest (4 per cent of $2,317,500)	92,700 00	
Interest on advances for road and equipment	15,300 00	
		116,585 86
Deficit		$ 56,248 00

The company has capital stock of $1,500,000 outstanding. On the revised computations as shown there is with the allowance of increase in freight rates and in advance of any payments of dividends a deficit of some $60,000.

I am of opinion that the increase in freight rates authorized by General Order No. 308 is justifiable here; and the same may become operative in the case of both of these railways on compliance with the requirements as to statutory notice in the *Canada Gazette.*

OPERATION ONE-MAN OPERATED CARS OF ST. THOMAS STREET RAILWAY OVER CROSSINGS OF PERE MARQUETTE AND LONDON AND PORT STANLEY RAILWAYS ON WILSON AVENUE, TALBOT STREET, WELLINGTON STREET, AND ELM STREET, ST. THOMAS

Judgment, Assistant Chief Commissioner McLean, June 4, 1921, concurred in by the Chief Commissioner and Commissioner Rutherford.

Application was made by the city of St. Thomas, Ont., to operate the P.A.Y.E. one-man operated cars of its street railway over the Pere Marquette tracks on Wilson avenue, in said city; also over the London and Port Stanley Railway tracks at Wellington, Talbot and Elm streets, all in the said city.

In the matter of the crossing of the Pere Marquette tracks on Wilson avenue, Order 29877 of July 15, 1920, issued providing that the operation was to be allowed for a period of three months from the date of the order; and providing, further, that in addition to the watchman then employed at the said crossing by the Pere Marquette Company the applicant was, at its own expense, to provide a watchman between the hours of 6 p.m. and 12 p.m., or until such time as it ceases operating street cars.

Order No. 29859 of July 15, 1920, issued authorizing the operation, during a three-months period, of the cars of the St. Thomas Street Railway over the tracks of the London and Port Stanley Railway on Wellington street. It provided, further:—

> "2. That, in addition to the watchman already provided at such crossing by the London and Port Stanley Railway Company, the applicant provide a watchman between the hours of 6 o'clock p.m., and 12 o'clock p.m.; the said watchman to have charge of the railway traffic as well as the street traffic; and

the cars of both companies to come to a stop before crossing and the railway employees to be governed by signals from the said watchman before proceeding over the crossing.

"3. That the wages of the said watchmen be borne and paid one-half by the applicant and one-half by the railway company."

The applications as to the crossings on Talbot street and Elm street were dealt with by Order 29860 of July 15, 1920, and Order 29876 of July 15, 1920. These orders also provided for the authorization of the operation asked for for a period of three months. Order 29860, as to Talbot street, provided as follows:—

"2. That the day and night watchmen at present installed at the said crossing have charge of the railway traffic as well as the street traffic, the railway employees to be instructed that they are to be governed by the signals and instructions of such watchmen; the cars of both companies to stop before proceeding over the crossing, and to be governed by signals from the watchmen.

"3. That the cost of the said watchmen be borne and paid one-half by the applicant and one-half by the London and Port Stanley Railway Company."

In the case of Elm street, Order No. 29876, the order provided as follows:—

"2. That the applicant, at its own expense, erect a semaphore in the angle of the said crossing, with a single arm and light arranged so that it will stand normally clear for the London and Port Stanley Railway and against the St. Thomas Street Railway; and that, before street cars proceed over the crossing, the car operator shall stop his car 30 feet clear of the nearest rail of the London and Port Stanley Railway, and go forward and set the signal against that line, then take his car across, stop it again the same distance (30 feet) clear, and restore the signal to its normal position before leaving."

From time to time, orders have been issued granting various periods of extension.

Under date of March 3, 1921, the St. Thomas Street Railway, the London and Port Stanley Railway and the Pere Marquette Railway were instructed to furnish the Board with full report as to the successful operation, or otherwise, of the existing arrangement.

The information is as follows:—

Wilson Avenue.—The Street Railway stated that the operation of the car had been a success in every way, and it was believed was greatly appreciated by the people. It was stated that one accident had occurred on October 19, 1920, at 9.15 p.m., it being set out that this was due to the Pere Marquette watchman giving the street railway motorman at Wilson avenue crossing a signal to go ahead. The street car was run into by the Pere Marquette engine backing down without any light on it, and it was, therefore, not noticed by the watchman or motorman. There were no passengers in the car at the time, and the only injury was to the street car.

The Pere Marquette in its answer sets out:—

"1. That the application of the city of St. Thomas for permission to operate one-man cars over Wilson avenue should be denied for the reason that the applicant seeks to lower the cost of operation by adopting a method which greatly increases the dangers to passengers".

"2. The said Pere Marquette Railway Company submits that the application should not be granted unless the crossing be protected in some manner equal to the protection afforded by having the street cars operated by a full crew".

"3. The Pere Marquette Railway Company submits that if permission is to be granted to applicant to operate one-man cars over Wilson avenue, the

order should require the crossing to be protected by the Street Railway Company from three o'clock in the afternoon instead of from six o'clock. This is being done at the present time and it more equally divides the time between the applicant and the Pere Marquette Railway Company".

The Board's Inspector who has gone into the matter reports as follows:—

"I went out to Wilson avenue crossing and stayed there some time watching the operation. I found that there was a watchman coming on duty at 6.35 a.m., and he worked continuously until 2 p.m., when a section-man came on duty from 2 until 3 p.m., when the regular "night watchman" took charge and worked from 3 p.m. to 11.35 p.m., when the last street car for the night passed; this service is perfectly satisfactory. The city, I understand, pay their share of the expense of watchmen. I took the matter up with Mr. Doherty, city solicitor for St. Thomas, and he stated that the city was willing to continue paying their share of the cost of protection. The system working as it is at the crossing is perfectly satisfactory and safe, and, personally, I think it should not be interfered with, and the order should be made permanent as per request".

In regard to the crossings of Talbot street, Elm street and Wellington street, all of which are across the tracks of the London and Port Stanley Railway, the answers submitted by the street railway are, in effect, that the operation has been successful in every respect, and that no accidents have taken place at these crossings. The London and Port Stanley Railway has not filed any objection to the existing arrangement or any comment upon the situation to which its attention was drawn by the Board's letter as already referred to.

The report of the Board's Inspector as to these crossings is that the arrangement is giving satisfaction and is, in his opinion, a thoroughly satisfactory one.

While it has been set out by the Pere Marquette that there has been in practice, a modification of the basis of contribution to the cost of watchmen at Wilson Avenue, as provided for in Order No. 29877, the Board is informed by the city of St. Thomas that "there has been no arrangement made between the city and the Pere Marquette Railway Company by which the city has agreed to pay the services of the watchmen at the Wilson avenue crossing from 3 p.m. to 6 p.m.;" and it is further stated that there has not in practice been any variation from the basis of contribution provided for in Order No. 29877.

The basis set out in Order No. 29877 was spoken to. I do not feel justified, in the present instance, where the Board is acting of its own motion, in recommending that the basis so arranged should be departed from.

I am of opinion that instead of renewing from time to time the various orders concerned, orders should now, in each case, issue authorizing, pending further order of the Board, the operation as at present authorized.

Re REDUCTION IN THE EXPRESS CLASSIFICATION OF ICE CREAM

Judgment, Chief Commissioner Carvell, June 6, 1921, concurred in by the Assistant Chief Commissioner and Commissioner Rutherford.

This case was heard at Ottawa on the 27th day of October last, and, in substance, is an application of the manufacturers of ice cream that this commodity should be placed in the second class for express purposes and not in the first, the contention being that, as ice cream is a food, it should be placed on the same footing for express charges as most other food products.

Practically the whole object of the applicants at the hearing seemed to be to establish the fact that ice cream was a food. I felt then, and now feel, that it was unnecessary to have gone to all the trouble because every person knowing the component parts of ice cream must admit that it possesses food value of a very high order. On the other hand, I cannot get away from the idea that ice cream is essentially a luxury.

It was argued very strenuously, and no doubt is true, that in hospitals it is used to some extent as a food and that, in many cases, with delicate children, they may be induced to partake of milk and cream in the form of ice cream which they would refuse in their ordinary condition, but these instances must be very rare, and, in my opinion, are not such as to place it in the category of an ordinary food product.

From a somewhat intimate knowledge of the manner in which this product is consumed in the country, I consider it a luxury just the same as soda water or candy. Ice cream is shipped in bulk, usually in 5 gallon cans. It goes to hotels, restaurants, ice cream parlors, etc., and is served out in very small quantities at a tremendously increased rate over the original cost of the article, and a reduction in the express rate, in my opinion would in no case inure to the benefit of the ultimate consumer but would simply be an added profit to the manufacturer and the middleman. For these reasons I think the application should be dismissed.

APPLICATION NATIONAL DAIRY COUNCIL OF CANADA FOR REDUCTION ON ICE CREAM AND RETURNED EMPTIES

Judgment, Chief Commissioner Carvell, June 6, 1921, concurred in by the Assistant Chief Commissioner and Commissioner Rutherford.

This case was heard by the Board at Ottawa on the 3rd day of November last, and it was suggested by Mr. Commissioner Rutherford that the parties should get together and attempt to arrive at a settlement. After a number of attempts, they met at Montreal on the 25th of February, but no agreement was arrived at.

In substance, the application is a request that whenever the handling of ice cream and the return of the empties is performed by the manufacturer at a point where wagon service exists, there shall be a reduction in the rate of 10 cents, and 5 cents respectively, and, when the case was first presented, the proposal seemed very reasonable to me.

Suggestions somewhat along the same line were made to the Board a number of times during its trip to Western Canada in the month of October last and the same principle was argued in extenso in the recent Express Judgment. In view of the decision in that case, I fail to see how this present application could succeed.

It was claimed by the manufacturers that this service could not be properly handled by the express companies during the hours of the day when the wagon service is in operation, viz., from 8 a.m. to 5 p.m., as the goods have to be packed in the night and transported to the railway station in order to catch the early morning trains to country points, and, when we consider the fact that the Neilson Company of Toronto handles as high as 800 packages per day and the Ottawa Dairy Company of Ottawa from 300 to 400, it is quite evident this contention is true, and it was not seriously controverted by the express companies.

On the other hand, the express companies hold themselves in readiness to handle all this business according to the existing rates during the day time as above mentioned, and the express companies contend that, if a concession were made to the ice cream manufacturers, it would be impossible to refuse it to shippers of other commodities, such as departmental stores, etc. The result would be a chaotic condition of business which would entirely disrupt their whole express service at large centres.

It is this phase of the question which influences me more than anything else in arriving at a conclusion in this matter. The express companies are bound under the statute and the decisions of the Board to furnish wagon service capable of taking care of all the business that may offer, and, if this concession were granted to ice cream manufacturers, I fail to see how it could be refused to others. Any shipper would then be in a position to demand the service from the express companies when it suited him, and could do it himself when more convenient, the result being that the express companies would be compelled to keep on hand horses and equipment sufficient to meet the maximum demand, much of which might be unemployed during a portion of the time, entailing an unnecessary cost on other express business.

For these reasons, and in view of the decision of this Board restoring the cartage differentials at non-cartage points, it would be entirely inconsistent to grant this application, and therefore, it should be refused.

ASSISTANT CHIEF COMMISSIONER MCLEAN: In the ruling of the Board in *Re Express Charges Virden to Cromer via Canadian National Express.* File 29040.24 (Board's Orders and Judgments, January 15, 1920, p 367), the following expression of opinion was given by way of ruling "where the express company maintains a cartage service which the shipper does not see fit to take advantage of, this does not justify the reduction asked for." While the matter involved arose in connection with the question of the cartage differential service since abolished, the principle enunciated is of general application and applies to the present case. I agree in the decision of the Chief Commissioner.

W. MALCOLM MACKAY, LIMITED, ST. JOHN, N.B., V. CANADIAN PACIFIC RAILWAY CAR RENTAL.

Judgment, Assistant Chief Commissioner McLean, June 8, 1921, concurred in by the Chief Commissioner and Commissioner Boyce.

Demurrage accrued in connection with certain cars of lumber shipped by the applicant. There is outstanding to the railway company some $724 on this account. The applicant contends that he comes within the provisions of an agreement whereunder twenty days free time was allowed in connection with export shipments.

Under date of October 24, 1919, an agreement re demurrage was entered into between the Canadian Railway War Board and specified steamship companies handling cargo from Atlantic ports. Under this agreement, it was provided:

> "1. It is mutually agreed between the Canadian Railway War Board acting on behalf of the railways, members thereof, and the steamship companies concerned, namely, the Canadian Pacific Ocean Services, Limited; The White Star Dominion Line; the Robert Reford Company, Limited; The Canadian Government Merchant Marine; McLean Kennedy Company, Limited; Furness, Withy Company, Limited; Canada Steamship Lines, Limited; Compagnie Canadienne Transatlantique, Limited; New Zealand Shipping Company, Limited; and Elder, Dempster and Company, Limited; that cars containing freight for British countries (other than Canada) and foreign countries (other than the United States), including that for Newfoundland via Halifax, Montreal and North Sydney only, and for the islands of St. Pierre and Miquelon via Halifax or North Sydney for transhipment to ocean vessels, whether moving on through bill of lading or otherwise, which are held on railway tracks at Atlantic ports awaiting vessels or for other reasons beyond the control of the railways, shall be allowed twenty (20) days' free time from 7 a.m. following date of advice of arrival at such port, exclusive of Sundays and legal holidays, after which a toll of two dollars ($2) per car per day or fraction thereof shall be charged for all time in excess of free time exclusive of Sundays and legal holidays."

Clauses 3 and 4 of the agreement have the folowing provisions:—

"3. If for any cause chargeable to the railways, cars do not arrive at seaboard in time to connect with the advised sailings as provided above, the free time shall be computed from the next regular advised sailing date, *not to exceed twenty (20) days as above mentioned.*"

"4. The steamship companies on their part agree that where such companies are responsible for delay to cars beyond the initial twenty (20) days' free time, they will pay the railway companies demurrage accruing after expiration of such free time."

The wording of clause 4, it will be noted, sets out that it refers to delays for which the steamship companies are liable and the obligations in connection therewith.

Applicant contends that when a freight agreement was entered into by him with any of the steamship companies concerned he became a party to the arrangement entered into between the steamship companies and the exporters, and had a right to the twenty days' free time.

The contention of the railway concerned—the Canadian Pacific—is that the agreement in question was between the transportation companies, and that the applicant had no standing in connection therewith.

The matter has been dealt with by written submissions. The applicant's position is more fully set out in his letter of November 24, 1920, which reads as follows:—

"We regret the very long delay in replying to yours of June 29 and August 9. We have had some difficulty in getting the railway bills collected, but enclose them herewith. Nine of the cars were loaded at Cardigan on the Gibson Branch of the C. P. R., two at Pinders on the Southampton Branch nearby, and four at St. George on the Shore Line Division of the C. P. R. here. We cannot supply you with the original bills of the latter four cars as they have been sent to the people we bought the lumber from at New Haven, Conn."

"We enclose copies of correspondence with the C. P. R. in connection with these matters, and you will note that nine of the cars went to the ss. *Zekri* for South Africa, and the other six to the ss. *Dunaff Head,* for Belfast, Ireland."

"In bringing lumber to St. John for export, it is seldom possible to bill them direct to the steamship lines as we cannot tell from time to time which Port stock is to be shipped to. Steamships generally require lumber in a hurry and give us very short notice, therefore we have to keep a supply in transit to be apportioned to whatever lines call for it first. Of course there are some lots which we can bill direct to the vessels but in most cases the procedure has to be as above. On receiving an order from the steamship lines for stock to fill space chartered and which space has no definite date of shipment, we can then supply them with the car numbers, but it is impossible beforehand on account of the above, and the steamship companies would refuse to accept cars unless billed to definite destinations.

"In sending stock alongside ships we pay the freight and order the cars through the railway office, and then state car numbers to the steamship companies who in turn give the railway the delivery orders as stock is required alongside.

"If there is any other information that you desire, kindly advise us, and we will be glad to furnish it."

Since the receipt of this letter, the correspondence has been continued. The most recent communication from the applicant which has been received within the last two weeks reads as follows:—

"Again referring to yours of March 9, we beg to submit as follows:—

"Mr. Flintoft has evidently been misinformed, as the facts of the matter are that lumber consigned to the steamship companies was allowed the twenty days' free time.

"For reasons explained to you previously, we were unable to consign our shipments directly to steamship companies, and we think that a mere matter of billing should not debar us from the same privileges said steamship companies had on this commodity.

"For years there has been a free time allowance on lumber per the Intercolonial Railway for export from St. John, Halifax, Pictou, Pugwash, Miramichi, etc., at one time as much as twenty-five days. This was reduced to ten days, and the Canadian Pacific made the allowance accordingly.

"But as the steamship companies were allowed the twenty days under the agreement of November 1, 1919, we feel that we certainly are entitled to the same on liner shipments.

"Trusting for a favourable decision from your Board, we are,

"Yours very truly."

The applicant, as pointed out, alleges that he has the right to the twenty days' free time. In the view I take of the agreement, it seems to me that the fundamental matter is, what was covered by the agreement?

While the transaction was concerned with the Canadian Pacific, reference must in the first instance be made to the tariffs of the Canadian Government Railways. The reasons for this will be later apparent.

A special freight tariff, C.R. 179 of the Canadian Government Railways, was effective February 5, 1918. This is a special freight tariff providing car demurrage regulations on carload traffic at tide-water ports. This provided, in the case of boards, box shooks, deals, lath, pickets, pit props, and square timber a free time allowance of ten days. This free time allowance of ten days runs from the date of arrival and applies at a group of 11 ports, St. John and Halifax being included in the list.

The same tariff carries a notation as to "All other traffic". It provides at Halifax and St. John in respect of shipments from points within 400 miles from the seaboard port via which traffic is to be exported, a free time allowance of ten days from date of arrival; and, further, provides that in case of points over 400 miles from the seaboard port via which traffic is to be exported fifteen days from the date of arrival. This is the car demurrage tariff which was operative on the Canadian Government Railways at the date when the agreement already referred to was entered into. The agreement was executed October 24, 1919, and was to be effective November 1, 1919.

The first tariff reference I find to the agreement is set out in Canadian National Railways Tariff C.R. 17, which cancels C. G. Railways C. R. 179, already referred to. C. R. No. 17 issued December 30, 1919, and was effective February 1, 1920. The tariff is a special freight tariff providing car demurrage regulations on carload traffic at specified tide-water ports. It sets out in the items of lumber already referred to free time allowance at fourteen seaboard points, including St. John and Halifax; and provides that on shipments from stations on the Canadian National Railways and connections there shall be free time allowance of five days from date of arrival. Further provisions is made by note 1 that after expiration of the free period named, car demurrage will be charged at the rate of $1 per car per day, or fraction thereof. This is the same rate which applied in the case of Tariff C. R. 179.

In the case of "All other traffic" provision is made that there shall be applicable at Halifax, St. John or North Sydney "Demurrage regulations as per the agreement between the Canadian Railway War Board and steamship lines."

It appears then, that the first tariff sanction given to the agreement was by tariff effective February 1, 1920; and it further appears from an analysis of the said tariff that the provisions of the agreement did not apply to lumber. It may be noted in passing that in said tariff hay is given the same treatment as lumber.

In a communication from the Board, the applicant was asked to state the number of carloads of lumber referred to. The applicant replied to this furnishing correspondence showing that under date of February 20, 1920, the terminal agent of the Canadian Pacific Railway Company at West St. John was written to informing him that applicant has in his yard nine cars of lumber "which may be required" for ss. *Jekri*. On February 25, 1920, a communication was addressed to the Elder Dempster Company, which covers in part the cars already referred to and adds three more for shipment by ss. *Jekri*. On April 14, 1920, the terminal agent of the Canadian Pacific Railway Company at West St. John was written to by applicant informing him that he had at West St. John 8 cars intended for ss. *Dunaff Head*.

There has not been submitted to the Board the dates when the demurrage accrued, but the statement set out shows that the first notification to the railway as to the cars available for shipment was on February 20, and, as has been pointed out, C. R. 17 was effective February 1, 1920. It is clear that under the Canadian National Railway tariff the agreement relied on did not apply to lumber.

There is no tariff of the Canadian Pacific giving any sanction whatever to the agreement. The Canadian Pacific states that the Canadian National Railways having published a tariff allowing ten days free time at St. John, Halifax and Sydney in the case of export lumber, and averaging $1 per day for delay beyond the ten days, this scale was adopted by the Canadian Pacific, and the charges were made accordingly. The railway states, however, that no such tariff was ever published by it. The tariffs of the Canadian Pacific have been checked and the Board finds no record of a tariff allowing ten days' free time at St. John, Halifax and Sydney in the case of export lumber.

At the time the cars were available for movement as represented in the record placed before the Board, the Canadian National tariff C. R. No. 17 only allowed five days' free time.

In the absence of Canadian Pacific tariff dealing with the question of free time on export lumber, recourse must be had to the demurrage rules. By exception 2 to rule 3 of said rules, provision is made for five days' free time being allowed at Montreal and at tide-water ports for unloading lumber and hay for export.

As a matter of tariff construction, I am of the opinion that this is the provision which applied in the case of the Canadian Pacific Railway Company. In makng an adjustment on the basis of ten days' free time something was done which was in ease of the provisions of the demurrage rules. I am unable to find any tariff sanction authorizing, as requested by the applicant, the application of the twenty days' free time under the agreement to the shipments involved in the present application.

CANADA WEST COAL CO., LIMITED, AND INTERNATIONAL COAL AND COKE COMPANY, LIMITED, RATES ON COAL FROM LETHBRIDGE AND THE CROW'S NEST DISTRICTS TO WINNIPEG AND INTERMEDIATE POINTS

Judgment, Chief Commissioner Carvell, June 8, 1921, concurred in by Commissioner Boyce.

At the sittings of the Board in Winnipeg on the 27th April, Mr. Hough, K.C., on behalf of the applicants, submitted a memorandum pointing out that the rate on coal from the Lethbridge and Crowsnest mines was greater than that from the Drumheller and Rocky Mountain districts to Winnipeg, although the mileage from Lethbridge was less than that from Drumheller, claiming discrimination and asking that

Lethbridge and Crowsnest rates be reduced to the Drumheller rate. No notice had been served upon the railway companies, and, therefore, they were given an opportunity to reply, which they have now done.

On examining the facts as presented, I am unable to conclude that discrimination exists. It seems that, in the Western Rates Case Judgment of 1914, the rates on coal from Lethbridge to Winnipeg were established on a uniform basis of 55 per cent of the 10th class standard rates, which is the present C.P. R. tariff. At that time, a lower basis was in effect from Drumheller than this standard would produce. As all coal rates were increased by Order in Council P.C. 1863, and also by the Rate Judgment of September last, the difference between the two rates, no doubt, has somewhat increased. In the Board's judgment in the Western Rates Case of 1914 the following appears:—

> "and, where, in same isolated cases, the companies for some specific reasons, have an existing rate lower than the basis now prescribed, the existing rate shall be continued."

and, in the Board's General Order No. 125, dated May 30, 1914, some months prior to the judgment above referred to, the Board positively ordered as follows:—

> "and it is further ordered that, for a period of two years from the date of this order, no rates at present in effect west of Port Arthur, Ont., be increased without the approval of the Board."

It, therefore, seems that the rates now existing are proper and legal under the existing orders of the Board.

Discrimination is alleged in that the Canadian Pacific Railway Company is charging a greater rate on coal from Lethbridge than is the Canadian National from Drumheller, but I do not understand that a rate charged by one railway which may be greater than that charged by another for the same service can be considered discriminatory. If the C.P.R. were handling coal from Drumheller at the C.N.R. rate and charging a greater amount from Lethbridge, a shorter distance, I think it would be a proper case for consideration by the Board on the ground of discrimination, but that point has not yet been reached, and, should the C.P.R. get into the Drumheller field, as I presume it will in the near future, probably this matter will have to be finally decided. Therefore, I think the application should be dismissed.

Re RULING OF C.F.A. THAT SECTION 14 OF THE BOARD'S GENERAL INTERSWITCHING ORDER NO. 252 IS CONSTRUED TO AUTHORIZE THE LOCAL ROAD HAUL SCALE OF 24 CENTS FIRST-CLASS AS THE "ORDINARY PUBLISHED RATE OF THE INTERCHANGE."

Judgment, Assistant Chief Commissioner McLean, June 15, 1921, concurred in by the Chief Commissioner and Commissioner Boyce.

This matter came up in connection with an application for a ruling of the Board in the matter of proper switching charges in connection with a shipment of excelsior loaded by Delaney & Pettit, Limited, on Grand Trunk team track at Jefferson Avenue, Parkdale, to be shipped via C.P.R. to Edouard Fournier, Montreal.

Section 14 of General Order No. 252 dealing with interswitching of freight traffic reads as follows:—

> "Should a team track shipper expressly order his shipment to be interswitched to another carrier, notwithstanding that the initial carrier upon whose team tracks the car has been loaded can furnish at the destination thereof, itself or through its connections or by interswitching, the same delivery and facilities as the said other carrier at no greater charge, the said

initial carrier may, in lieu of the toll prescribed in section 6, charge and collect its ordinary published rate to the interchange, which rate shall be a lawful additional charge against the shipment;

"Provided, however, that this alternative shall not be lawful, and section 6 shall apply, if within forty-eight hours after the shipper has requested it the said initial carrier fails to place a suitable car reasonably convenient for loading."

What is involved in the present application is the construction of the words "its ordinary published rate to the interchange."

When the application was launched, it was stated that the car of excelsior had been loaded on the Grand Trunk team track at Jefferson avenue, located adjacent to the applicant's works in Parkdale, for Edouard Fournier, Montreal, Quebec. Owing to the consignee's place of business, 80 Rue Clarke, being much closer to the Canadian Pacific Railway's team tracks than those of the Grand Trunk, he ordered shippers to ship via the Canadian Pacific to avoid the higher cost of cartage from the Grand Trunk terminal as compared with the Canadian Pacific. Excelsior is an "exception" under the cartage tariffs and not subject to the general rate.

In the application as launched by Mr. Marshall, it is stated that the Grand Trunk assessed its full mileage 5th class rate of 12 cents per 100 pounds, claiming it was entitled to this under section 14 of the General Interswitching Order. Mr. Marshall continues:—

"We hold it is open to question whether the team track interswitching charge of 1½ cents per 100 pounds should have been assessed, but in any event that the 5th class rate of 5½ cents for the movement between Parkdale and Bathurst Street-under G.T.R. Local Switching Tariff S-131, C.R.C.E.-4133, should not have been exceeded."

On taking the matter up with the railway, it was stated that the matter was under consideration by the Freight Committee of the Canadian Freight Association; but in the meantime, and without prejudice, the division freight agent at Toronto had been directed to adjust the charge to the basis of 5½ cents per 100 pounds as claimed.

Subsequently, the Board was advised by the railway company that on consideration by the railways the opinion was that where traffic was loaded on team tracks and switched to a connection to enable the latter to obtain the road haul to a common or competitive point which can be reached by the switching carrier and delivery required given, the local road haul scale of 24 cents per 100 pounds first-class should be applied.

While the complaint was launched in the first instance against the Grand Trunk, counsel for the Canadian Pacific discussed the matter of principle involved.

Originally, at interchange points no uniform rate for switching service was in effect. The Board has dealt with the matter by general orders. The order which at present deals with the rates and conditions of interswitched freight traffic is General Order No. 252, of October 26, 1918.

Local switching for individuals or firms is distinguished from interswitching for another railway. Under tariffs now applicable, the railways have subdivided the local switching under the headings of interplant, intraplant, reconsigning, and reshipping switching.

The minimum class rates which the companies contend should apply are those established by Order in Council P.C. 1863. This minimum scale made a very sharp increase in the rates for short distances. The first draft local switching tariffs presented by the railways contained the minimum rates based on P.C. 1863, provision being made for these rates to be charged in the absence of lower specific switching

rates. The matter was adjusted, however, by providing that in the case of local switching the basis should be the standard class rate of 1917, plus the 15 per cent and 25 per cent increases, or an increase over 1917 rates averaging a little over 43 per cent.

The contention of Mr. Marshall that it was an open question whether the team track charge of 1½ cents per 100 pounds should have been assessed does not appear to me to be tenable.

In the case of local switching and in the case of the movement herein involved, the service is the same varying only in respect of distances. The local switching rates are published as of general application where no rate for a specific movement is in effect. The physical service performed is the same whether the car is moved to a track of the switching company or to a transfer track of a connecting company.

I am, therefore, of the opinion that on the movement involved "the ordinary published rate" as referred to in section 14 of the Interswitching Order is the rate that would be ordinarily charged for the same movement as a local switching and not an interswitching operation.

APPLICATIONS ABRAHAM YACOWAR AND SAMUEL YACOWAR FOR FARM CROSSINGS

Judgment, Commissioner Boyce, June 29, 1921, concurred in by the Chief Commissioner, Asistant Chief Commissioner, Deputy Chief Commissioner, and Commissioner Rutherford.

There are two applications for farm crossings. The first is by Abraham Yacowar, who is the owner of the N.E. ¼ of section 20, Township 20, range 28, west 3rd M. The second application, which is sought to be tied on to the first, is by Samuel Yacowar, a brother of Abraham Yacowar, Samuel being the owner of the S.E. and S.W. ¼ of 20-20-28, W. 3rd M.

The railway traverses the lands of Abraham Yacower, N.E. ¼ 20-20-28, cutting it in half from northeast to southwest through part of the cultivated land at the northeast corner, and thence through the pasture land, cutting off that part of the pasture land lying northwest of the railway from the well which is southeast of the railway on this quarter-section, and thereby depriving Abraham Yacowar of the right of access to the well for watering his cattle.

The railway also cuts through the lands of Samuel Yacowar—the southerly half of section 20. The line, after leaving Abraham Yacowar's N.E. ¼ traverses Samuel Yacowar's S.E. ¼ at the N.W. corner and continuing traverses Samuel Yacowar's S.W. ¼ at the S.W. angle; also, as he complains, cutting off his pasturage from water. It is contended, and representations are made by the respective applicants, that they hold the whole section 20 in partnership—that is, apparently, they share the profits or work of two half-sections owned by each brother together, although they have separate titles to each half-section and made separate right-of-way agreements incident to their respective holdings with the railway company.

Sections 272 and 273 of the Railway Act do not contemplate the granting by this Board of any farm crossing from the lands of one person to those of another person. The powers vested in this Board by these sections extend only to cases where the lands of one person are severed by the railway and access is necessary from one part of the lands of that person to the other part of his land. I am, therefore, of opinion that the question of partnership, or community holding, or sharing in profits, cannot be considered as regards these applications, and that they must be dealt with separately as regards the relative rights of railway company and owner of each portion of the section through which the railway passes.

The railway does not touch the N.W. ¼ of section 20-20-28, W. 3 M., owned by Abraham Yacowar. As regards the N.E. ¼ of 20, covered by the application of

Abraham Yacowar, there is clearly a case made out for a farm crossing. As I have pointed out, there is at the northerly portion of this quarter-section an area of cultivated land traversed by the railway. The remainder of the quarter-section is pasture land divided by the railway, and thereby cutting off from water.

Under section 272 it is obligatory upon the railway to make crossings for persons across whose lands the railway is carried, "convenient and proper for the crossing of the railway for farm purposes." There should, therefore, be an order upon Abraham Yacowar's application, that the railway company furnish and provide, at its own expense, on or before the 15th day of August next, a convenient and proper crossing, on the N.E. ¼ of section 20, township 20, range 28, west of the 3rd meridian, at such point as may be mutually agreed upon between the railway company and the owner. If the parties do not agree upon the location of the crossing (*i.e.*, a level farm crossing) the location of such crossing shall be settled by an engineer of the Board. The crossing to be protected by gates and to be kept closed by the owner; and, as provided by subsection 2 of section 272 of the Railway Act, whenever live stock is using the crossing they shall be in charge of some competent person who will take all reasonable care and precaution to avoid accident. The applicant asks for an under-crossing, or subway, but the profile shews, and the engineer reports that the contour of the land does not lend itself to any such crossing, which in any event would be expensive, and under the circumstances unnecessary. The crossing, therefore, will be at rail level.

As regards Samuel Yacowar's application, he asks that the railway company construct a cattle pass-under grade, in the S.W. ¼ of 20-20-28 W. 3rd, or, in the alternative, that the railway company provide a good well on the N.W. ¼ of the same section, sufficient for the watering of his cattle. He states that the latter alternative will be just as suitable, as he could water his stock on the north side of the railway's right of way. The Engineer reports, as regards this application, that it is possible at a point near the 20-mile post to put in an under crossing for cattle to pass, six feet high and five feet wide, there being a fill on the railway crossing this land of approximately nine feet, rendering such an under crossing possible, if desirable. Such a crossing, the Engineer reports, would cost about $4,000.

I am of opinion that this Board has no jurisdiction to order the railway company to provide the alternative remedy asked for, viz., a well on the N.W. portion of this section. If such an alternative is acceptable to the railway company, and is complied with by the company to the satisfaction of the applicant, it can be accepted by the applicant as a discharge of the order which I think ought now to go, directing that the railway company provide, at its own expense, on or before the 15th day of August next, a suitable, convenient, and proper crossing, at rail level, between the S.W. and S.E. quarters of 20-20-28, W. 3rd, the property of Samuel Yacowar, at such point as may be mutually settled between the railway company's representative and the owner, and if no agreement can be reached between them, by an Engineer of this Board. The same provisions and conditions as to protection of the crossing and personal conduct of cattle in the first case to apply to this case. I do not think that the necessities of the case call for any such large expenditure as would be involved by the only possible under-crossing referred to. The cost of such an under-crossing would probably be nearly as large as, if not more than, the full value of the land, and I think a crossing at rail level can be made, which would be within the meaning of the section of the Railway Act applicable thereto—"convenient and proper for the crossing of the railway for farm purposes."

Separate orders should go providing for the above.

NOTE.—The order, in the case of Samuel Yacowar, to contain a clause giving him the option of constructing an under-crossing at the point located by the Engineer, at his own expense. The railway company to contribute to the cost of such undercrossing the cost of a crossing at rail level.

APPLICATION ONTARIO FRUIT GROWERS' ASSOCIATION, *et al*, FOR RESTORATION BY EXPRESS COMPANIES OF PREVIOUS ARRANGEMENTS FOR UNLIMITED UNLOADING OF CARLOAD FRUIT AND VEGETABLES FROM STATIONS IN ONTARIO TO POINTS IN MARITIME PROVINCES AND WESTERN CANADA.

Judgment, Chief Commissioner Carvell, July 6, 1921

For many years prior to 1919, fruit growers in the Niagara peninsula of the province of Ontario have enjoyed the privilege of forwarding their fruit to points in the Maritime Provinces as well as points in Manitoba and other portions of Western Canada by express at carload rates regardless of the quantity shipped, although, no doubt, in most cases, they were started from the Niagara peninsula in carload lots and distributed from station to station along the several lines of railway, always, however, at the carload rate. This privilege was curtailed, so far as shipments to the west were concerned, by the Express Judgment of 1919, but continued in the Maritime Provinces.

When the Board was considering the application of the express companies for a general increase in rates, very serious complaint was made at Halifax on behalf of the fruit growers in the Annapolis valley that the provision hereinbefore described as granted to the Niagara peninsula growers was discriminatory as against the Nova Scotia producers, but, when the matter was referred to at the hearing, Senator Smith and all other applicants herein were entirely willing that not only the Nova Scotia growers but British Columbia growers as well should receive the same treatment as they were receiving.

When the last Express Judgment was written, the following statement appeared:—

> "Then again, we find that fruit is being shipped from Winona and other Ontario points to the Maritime Provinces under carload rates, and yet the car can be opened at every station between Campbellton or McAdam Junction and Sydney and a dozen or a hundred crates of fruit can be transhipped at junction points and carried over branch lines to destination, still at the carload rate. This condition existed in carrying fruit from Ontario points to Manitoba and Saskatchewan, but was corrected by the last Rate Judgment. On the other hand, the producer of fruit in the Annapolis valley receives no such privilege and is at a distinct disadvantage in distributing his product over the Maritime Provinces as compared with the Ontario shipper. Then, again, the shipper of fruit from British Columbia while he receives a fairly low rate as far east as Winnipeg, yet is entitled to no such advantages, but has the privilege of opening the car twice en route on the payment of $5 for each opening. These discrepancies should not exist, and the express companies should so arrange their tariffs that all sections of the Dominion will be treated as nearly alike as it is possible to do considering the character of the business and the distances travelled."

The result was that, when the express companies filed their tariffs, they removed the alleged discrimination by refusing to continue the carload rate heretofore enjoyed, and the present application is by the Ontario Fruit Growers' Association, etc., for an order directing the express companies to restore the previous arrangements for unlimited unloading of carload fruit and vegetables from stations in Ontario to points in the Maritime Provinces and Western Canada. This application was heard by the Board at Ottawa on the 17th of May when exhaustive argument and evidence were given both by the applicants and by the express companies in respect thereto.

The present rates provide that, wherever fruit can be shipped in carload lots, it shall be at the same rate as heretofore plus the 20 per cent general increase added by General Order No. 327. In addition to this, the express companies provide for two unloadings at the nominal sum of $5 each, making three places at which the carload

of fruit can be distributed. The carload rate before the recent order was $1.25 per 100 pounds to the Maritime Provinces and $2 to Manitoba points. This has been increased by 20 per cent, making the present Maritime Province rate $1.50 and the Manitoba rate $2.40.

If this provision does not meet the requirements of shippers, they then have the privilege of shipping at the second class express rate, which varies according to mileage but is, roughly speaking, between 2½ and 3 times the carload rate.

It was stated in the evidence and not contradicted that the second class rate on an 11-quart basket of fruit would be about 10 cents greater by the l.c.l. rate than if shipped by the carload, but, in the l.c.l. movement the fruit is gathered and delivered by wagon service, which is not the case at the present time when shipped by the carload.

It was stated by the express companies that the present carload rate from Ontario to the Maritime Provinces on fruit was from 23 to 26 per cent of the first class express rates and about 33 to 40 per cent of the second class express rates. From Ontario to Manitoba points the percentage ranges from 24 to 36 per cent of the first class express rates on carloads and from 32 to 48 per cent of the second class on less than carloads.

The following table is instructive:—

	1st cl. Exp.	2nd cl. Exp.	C.L. Exp.	% of 1st cl.	% of 2nd	L.C.L. Exp.	% of 1st cl.	% of 2nd	1st cl. Freight
Winona to—									
St. John	5·65	3·95	1·50	26·55	37·97	2·10	37·17	53·16	144
Moncton	5·95	4·10	1·50	25·21	36·59	2·10	35·29	51·22	144
Truro	6·60	4·60	1·50	22·72	32·60	2·10	31·82	45·66	148
Halifax	6·40	4·45	1·50	23·44	33·71	2·10	32·81	47·18	148
Sydney	7·30	5·05	2·10	28·77	41·58	2·70	36·99	43·47	162½

This shows that the carload rate is to-day just above the first-class freight rate to the principal points in the Maritime Provinces excepting Sydney, where it is considerably below the freight rate, and, according to the evidence of Mr. Ham, the actual cost, based upon 34.7 cents per car mile, of carrying a 20,000 pound car of fruit from Winona to St. John is $301.20. The total express rate with the 20 per cent addition under the recent order would amount to $300, and the l.c.l. rate is $420. The cost of haulage to Moncton is $332, the rate for a 20,000 pound car would be $300, and the l.c.l. charge $420. The cost of hauling the same car to Halifax would be $396.63 the carload rate would be $300 and the l.c.l. rate $420. To Sydney, the cost of haulage is $453, the carload rate $420, and the l.c.l. rate $540.

It will, therefore be seen that the total receipts for both railway and express companies by the carload are a little less than the actual cost of transporting the car, to say nothing of the return movement and whatever may have been the cost of placing the car for loading in the first instance, and, after all, this is the real question which this Board should consider.

It was strongly urged by Senator Smith and his associates that this business had been going on for more than twenty years, that a valuable business had been built up upon this basis, and that they strongly feared that they would not be able to compete with United States producers if the change were made permanent. It was alleged that the Ontario fruit, while more luscious, was more perishable than the American fruit, and strongly contended that without this concession they would be unable to carry on the business.

There may be and probably is something in the contention that the Ontario fruit deteriorates more rapidly than the American fruit, but I am unable to accept

their arguments as being conclusive or even logical, because the American fruit enjoys no such shipping privileges and, in addition, is met with a rather severe duty on practically all fruit which could enter into competition with Canadian fruit.

The applicants contend that two unloadings will not in any way meet their requirements, and claim that goods shipped by the ordinary l.c.l. movement would not reach their destination in prime condition. As against this the express companies state that the l.c.l. fruit would be transported in the same cars as have been used heretofore or as will be used in the carload movement, and, as the express companies want the business, I think it is fair to assume they will look after the transportation side of it and see that the fruit receives proper treatment.

It, therefore, resolves itself, in my judgment, to a question of whether or not the additional 10 cents per basket of fruit is an unreasonable increase and whether the rate with the 10 cents added to it is an unfair and unjust rate to charge for carrying fruit from the Niagara peninsula to the Maritime Provinces.

Taking the evidence as to the costs and receipts hereinbefore referred to, it is not unreasonable, and I am not able to convince myself that it is the duty of this Board to order transportatiou companies to lose money in carrying goods in order that there may be no interference with an old established business. If that doctrine were to hold good then there never could be any change in railway or express rates or conditions. I realize that the fruit will cost the consumer probably more than it has heretofore done, and yet from the evidence produced the spread between what the producer in the Niagara peninsula received in the year 1920 for the fruit and vegetables and what the consumer paid was so great that the 10 cents per basket could easily be absorbed and yet leave a very handsome profit.

However, this is not the criterion upon which rates should be fixed, but rather is the rate proposed just and reasonable? I think it is, although, personally, I would much rather see the former conditions prevail. I realize it will necessitate some change in the method of carrying on business in the Maritime Provinces. No doubt a very great proportion of this fruit will still go forward in carload quantities, because the cities and towns which can take either a full carload or a carload with two openings and the final destination would absorb a very large proportion of the total quantity. The balance will probably be shipped in carload quantities to central points and there distributed at the l.c.l. rate, which will very materially reduce the 10 cent increase hereinbefore referred to. It may require the establishment of employees and offices at certain central points such as McAdam Junction, Newcastle, Moncton, and Truro, but these are small matters compared with the magnitude of the business. It may even, in some cases result in distribution by wholesale houses in the larger cities but this is a matter which the trade will work out as to it seems best.

For these reasons, much as I regret it, I am compelled to refuse the application and think the same should be dismissed.

Judgment, Assistant Chief Commissioner McLean, July 18, 1921, concurred in by Commissioner Boyce.

In my memorandum of concurrence dated February 2, 1921, in the judgment of the Chief Commissioner regarding the application by the Express Traffic Association of Canada for an increase in tolls, the following language was used:—

> "The computations as to cost of carriage on the basis of 34.7 cents per express car mile are set out in the reasons for judgment by the Chief Commissioner. If the figure of 30.62 is taken, as referred to in the foregoing reasons, as being the figure which was advanced by Mr. Geary as showing actual costs per car mile, then the result on the mileage from Mulgrave to Montreal is as follows: Express car mile cost, $272.51; freight charges on a basis of 30,000

pounds, $180. That is to say, on a 50 per cent basis, the express company would receive $136 as against a freight charge of $180."

The judgment of the former Chief Commissioner, Sir Henry Drayton, in the Express Rate application of 1919, said judgment being dated July 17, 1919, stated that a rate of 34·7 cents an express car-mile for the transportation service was received by the Canadian Pacific, and that "in the light of the cost figures, not only of the privately owned but also the government systems, this return was reasonable."

The sections dealing with the jurisdiction given to the Board over express business are fundamentally toll sections. Section 360 provides:—

(1) All express tolls are to be subject to the approval of the Board;

(2) The Board may disallow a tariff, or portion thereof, which it considers unjust or unreasonable;

(3) It may exercise all such powers regarding express tolls and tariffs "as it has or may exercise under this Act with respect to freight tolls and freight tariffs;

(4) All provisions of the Act applicable to freight tolls and freight tariffs "in so far as such provisions are applicable and not inconsistent with the provisions of this section and the five next following sections (361-365) shall apply to express tolls and tariffs."

Section 364 sets out that the Board has jurisdiction to define carriage by express. The amendment of 1919, viz., "and may order that all such goods as the Board may think proper shall be carried by express" was put in because under the Act, as it formerly existed and had been construed by the Board, the obligation of the express company was only to carry such goods as it held itself out to carry.

Section 365 relates to the limitations of the contract of carriage.

Section 360, subsection 2, refers to disallowance. Under section 362, reference is made to the disallowance or suspension of a tariff by the Board.

The powers, the exercise of which is asked for in the present application, must be found in section 312, subsection 1 (*e*), which provides that the company shall "furnish such other service incidental to transportation as is customary or usual in connection with the business of the railway company as may be ordered by the Board."

As I read section 312, it does not apply to an express company. In the first place, section 312 starts out "the company" shall according to its powers—by subsection 4 of section 2 of the Railway Act, "company," where not otherwise stated or implied, means railway company unless immediately preceded by "any," "every," or "all," in which case it means every kind of company which the context will permit. The wording of section 312 read in connection with the definition as set out indicates that Section 312 is concerned with the business of a railway company. Subsection 1 (*e*) of section 312 refers to the service . . . . customary or usual in connection with the business of a "railway company." The section throughout refers to "the company" except in subsection 6 where authority is given the Board *inter alia* to direct that any specified systems or methods be taken . . . . "by any particular company or companies, or by railway companies generally." As pointed out the interpretation section gives a qualifying effect to the use of the word "any," *i.e.*, it means every kind of company which the context will permit. The words "or by railway companies generally," above set out, clearly by context limit the word company to railway company. The words "any company" in subsection eight are similarly limited by context.

Further, section 312 is a facility section. It is true that by subsection 4 it is provided that the traffic taken shall be carried to and from and delivered at the places aforesaid (that is, the places referred to in sub-section 1 of the section) on due payment of the toll lawfully payable therefor; but the intent of the section is that the powers over tolls, *e.g.*, in subsection 6, where it is provided the Board may order a

specific work to be constructed or a specific toll to be charged, are incidental to and tied up with the Board's control in respect of the obligations of the railway as to facilities.

The fact that the Board's jurisdiction in regard to express companies is a rate jurisdiction has been set out in a memorandum of March 24, 1920, on Board's file No. 30081, which was published in Board's Orders and Judgments of April 15, 1920. In the memorandum in question, after citing the rulings of the Board of earlier dates, the following language was used:—

> "In summary form, the Board's jurisdiction is as to tolls and contracts, etc., limiting liability, with the additional power conferred by section 364, amended, as already noted, by saying what may be carried by express. The Board is given no authority to direct an express company, *qua* express company to install facilities or to arrange that specific services shall be given at specific stations. It follows from this that so far as jurisdiction is concerned, the Board has no power to direct an express company to reinstate at a station or stations express facilities which it has removed, nor has the Board power as a matter of jurisdiction in the first instance to direct the installation of facilities at a station or stations."

Holding as I do that section 312 is a facility section, I am of opinion that under the interpretation of the Railway Act which has consistently been followed by the Board, section 312 does not apply to express companies, and that, therefore, the Board is without power to grant the application asked for.

APPLICATION SECURITY TRAFFIC BUREAU FOR RULING AS TO CONSTRUCTION OF ITEM 10, PAGE 34, SUPPLEMENT 10 TO CANADIAN FREIGHT CLASSIFICATION NO. 16

Judgment, Assistant Chief Commissioner McLean, July 7, 1921, concurred in by Commissioners Boyce and Rutherford.

Item 10, p. 34 of Supplement 10 to Canadian Freight Classification No. 16, reads as follows:—

Machinery and Machinery Parts, N.O.S.—

Under 1,000 pounds per piece—	
Not crated or boxed	1½ L.C.L.
Crated or boxed	1 L.C.L.
1,000 pounds or over, per piece, with connections and small detached parts boxed	2 L.C.L.

The Security Traffic Bureau of St. Paul, Minn., writes in respect of the classification and rate applying on a shipment from St. Louis to the Lethbridge Brewing and Malting Company, billed from Minnesota Transfer. The total weight of the shipment was 3,140 pounds. It is stated that it consisted of four boxes of bottling machine repair parts; and that investigation showed one box, or piece, to weigh 1,047 pounds.

The Security Traffic Bureau contends that under the provisions of the classification as set out "One thousand pounds or over, per machine or portion of machine with connections and small detached parts boxed" means one thousand pounds per machine or portion of machine. The C.P.R. states that one box or piece weighed 1,047 pounds, and it is contended by it that the rate of second-class, attaching to a shipment of 1,000 pounds or over per piece, is limited to the shipment of 1,043 pounds; and that the other shipments, being in each case less than 1,000 pounds, are subject to a rate of first-class.

What really is in contest is whether, as contended by the applicant, the machine being 1,000 pounds or over, that each piece, regardless of weight, moves on a second-class rating, or whether, as contended by the railway, each piece must be 1,000 pounds or over to obtain the second-class rating thereon.

The matter is submitted to the Board for a ruling by the Security Traffic Bureau. Copies of the correspondence interchanged with the freight claims agent of the Canadian Pacific are submitted.

As a matter of construction of the classification the words "one thousand pounds or over" are to be read as qualifying the words "per piece"; that is to say, where there is a shipment of a piece of machinery 1,000 pounds or over, the second-class rate applies, and where there is a shipment of machinery of less than 1,000 pounds crated or boxed, the first-class rate L.C.L. applies.

ADVANCE IN PASSENGER TOLLS, NIPISSING CENTRAL RAILWAY COMPANY

Judgment, Assistant Chief Commissioner McLean, July 18, 1921, concurred in by Commissioner Boyce.

I

Application is made by the Nipissing Central Railway Company for an increase in its passenger rates. The application was heard at Haileybury, Ont., on May 14. The towns of New Liskeard and Haileybury were represented by counsel; the township of Bucke, in which the town of North Cobalt is located, was represented by its reeve.

On account of the statistical data presented at the hearing, it was arranged that the parties representing the interests opposing the application should have an opportunity to file written memoranda. Copies of said written memoranda were to go to counsel for the railway company and thereafter the railway company was to file its reply. The material in this regard is now before the Board. The only one of the parties which filed a supplementary memorandum was the town of New Liskeard. The reply of the railway company thereto has been received.

The Nipissing Central Railway Company is an electric line between Cobalt and New Liskeard, which operates in part on its own right of way and in part on the right of way of the Temiscaming and Northern Ontario Railway. The mileage is distributed as follows:—

	Miles
Nipissing Central from North Cobalt to Haileybury	3.44
Nipissing Central in New Liskeard	1.48
Temiscaming and Northern Ontario right of way, Haileybury to New Liskeard	3.09
Temiscaming and Northern Ontario right of way, Cobalt to Kerr Lake	7.36
Total	15.37

The Nipissing Central Railway Company was incorporated by Dominion legislation. It has an authorized capital stock of $1,000,000 common, of which $530,000 par value are outstanding, the balance being in the treasury. This sum of $530,000 issued as fully paid outstanding stock was acquired by the Temiscaming and Northern Ontario in 1911. The railway is operated by the Temiscaming and Northern Ontario Railway Commission. As returned in the annual report of the railway for the calendar year ending December 31, 1920, the directors of the Nipissing Central are the chairman of the Temiscaming and Northern Ontario Railway Commission and three of the general officials of that commission. The general officers of the Temiscaming and Northern Ontario Railway are also the general officers of the Nipissing Central Railway. These directors hold all stock issued in trust for the province of Ontario.

The railway is operated under five franchises. One of these is from the town of New Liskeard; then there is a franchise through a small piece of the township of Dymond, which is located adjacent to New Liskeard; there is then a franchise from the township of Bucke; a franchise from the town of Haileybury; and a further franchise from the township covering to North Cobalt. The franchise arrangements are for twenty-year periods. There are provisions contained therein, with the exception of the franchise from the township of Dymond, as to limitation of fares.

Subject to what is set out below as to protests against the increase, there is no objection raised on the ground that the Board is without power to interfere with rates covered by franchise. The matter was referred to incidentally at the hearing, and counsel for the railway pointed out the Board's jurisdiction in this respect. No exception was taken to this by counsel for those opposing the application. As to the Board's jurisdiction in regard to rates covered by franchise, see *Montreal and Southern Counties Railway Company v. Town of Greenfield Park et al, 23 Can. Ry. Cas, 106, at p. 113.*

II

The rates which the railway proposes to put in are set out in the following statement which indicates in brackets the existing rates:—

Fares between Cobalt and Haileybury.. .. .. ..(10)	15c. or	8 tickets for $1.00
Between North Cobalt and Haileybury or Cobalt.. ..	10c. or	12 tickets for $1.00
Between points within the town limits of Haileybury or Cobalt.. .. ..(5)	7c. or	4 tickets for 25c.
Between Cobalt and Kerr Lake and intermediate points.. .. ..(10)	15c. or	8 tickets for $1.00
Between New Liskeard and Haileybury.. .. ..(10)	15c. or	8 tickets for $1.00
Between points within the town limit of New Liskeard (5)	7c. or	4 tickets for 25c.
Between New Liskeard and Cobalt.. .. ..(20)	30c. or	4 tickets for $1.00

TEN (10) RIDE SCHOLAR'S TICKETS

Between—

Cobalt, Haileybury and intermediate points.. .. ..(25)	30c.
New Liskeard, Haileybury and intermediate points.. .. ..(25)	30c.
Cobalt, Kerr Lake and intermediate points.. .. ..(25)	30c.

Conditions:—

These tickets good only on days on which school is in session going to and from school and which will not be honored at any other time of day or on Saturdays. Sundays, or holidays will be sold to scholars only on presentation of certificate bearing the personal signature of the Principal of the School, certifying that the applicant is a regular attendant of his school under eighteen (18) years of age and properly entitled to use these tickets.

Twenty-one (21) Ride Workmen's Tickets

* Good for passage between the hours of 5.00 to 7.30 a.m. and 4.45 to 7.00 p.m., daily except Sunday.

Between—

Cobalt and Kerr Lake and intermediate points (1.00)..	$1.25
Cobalt and Haileybury and intermediate points (1.00)	1.25
New Liskeard and Haileybury and intermediate points (1.00)..	1.25
New Liskeard and Cobalt and intermediate points (2.00)	2.50

* See note.

Note.—On car leaving Cobalt at 6.45 p.m., also on car leaving New Liskeard 6.45 p.m., workmen's tickets will be accepted as far as Haileybury only.

The effect of what is proposed is set out by the railway in Exhibit No. 9, as follows:—

MEMO. RE AVERAGE FARE PER PASSENGER FOR YEAR 1920 AND ESTIMATED AVERAGE FARE UNDER PROPOSED TARIFF NO. 21, YEAR ENDED OCTOBER 31, 1920

	No. of Passengers	Revenue	Average Fare
	%	%	cts.
Workmen..	19·3	11·8	4·76
Scholars..	3·7	1·1	2·5

	Present Fares		Proposed Fares		
	Cash	Tickets	Cash	Tickets	Estimated Average
		cts.		cts.	cts.
Workmen	.....	4·76	.....	5·95	5·95
Scholars	.....	2·50	.....	3·00	3·00
Local	5·0	.....	7·0	6·25	6·30
Standard	10·0	.....	15·0	12·50	.....
			10·0	8·33	12·50

	Per Cent	Present		Proposed	
Workmen	19	4·76	90·60	5·95	113·05
Scholars	4	2·5	10·00	3·0	12·00
Local	16	5·0	80·00	6·4	102·40
Standard	61	10·0	610·00	12·5	762·50
	100		790·60		989·95
Average	.....	.....	7·9c.		9·9c.
		Increase	.....	..... or	2·0c. 25·5%.

The town of North Cobalt takes the position that it is especially affected by the proposed change in workmen's tickets. The reeve of the township of Bucke, in which North Cobalt is located, stated the only protest from the township was on the ground of workmen's tickets. He pointed out that the township was more affected than any of the other municipalities; that North Cobalt was located in the township in question and was a workmen's townsite; that a considerable number of workmen lived there who worked in Cobalt; and he was of opinion that an increase would bear more severely upon North Cobalt than on any other municipality.

There was also a statement by the township of Bucke that an early car should be run as set out in the franchise.

The railway's submission in this regard was that the franchise covered, as to fares, workmen's fares in the township of Bucke between 5.20 a.m. and 7.30 a.m., and between the same hours in the evening, but that the railway had in practice been granting workmen's tickets over a more extended period. It was also pointed out by the railway that while the franchise of the township of Bucke made no provision for scholars' tickets, the railway had been giving ten tickets for 25 cents to *bona fide* scholars; and that the same thing applied in the case of Haileybury and New Liskeard.

III

Counsel for the town of Haileybury at the hearing raised the question of the alleged expensive operation of the Kerr Lake section, and the possibility of economies being effected by curtailment of service in connection therewith. This is considered later.

As pointed out, the township of Bucke took the position that it was especially interested in workmen's tickets. The town of Haileybury has made no representation on this subject. The town of New Liskeard has stated it has no objection to a revision of rates in this respect. It has also intimated at some length that economies are obtainable in connection with the operation of the Kerr Lake section, which it regards as being unprofitable.

IV

The fiscal year of the Nipissing Central Railway Company ends October 31. Exhibit No. 3 as filed gives a comparative statement of the earnings, expenditures and result of operation for the fiscal years 1915 to 1920. For 1915, there was, after deduction of taxes and rental for leased road, a net of $25,094.99. For 1916, there was a net of $22,197.45. For 1917 to 1920, inclusive, there has been a deficit, the figures being for 1917, $4,632.57; 1918, $8,727.13; 1919, $3,271.74; 1920, $24,068.19.

The total revenue of the Nipissing Central Railway Company in 1915 was, in round numbers, $106,000. In 1920, it was $120,000. These are the gross figures. Counsel for New Liskeard in his written submission, possibly through an error in typewriting, refers to these figures as if they represented a net revenue. Of the increase of approximately $14,000 in gross revenue between 1915 and 1920, $12,000 are attributable to passenger car revenue. The total receipts for the period have had an irregular movement—in 1915, $106,000; in 1916, $110,000. Then in 1917 and 1918, they fell to $93,000 and $96,000 respectively. There was an increase to $108,000 in 1919, and the 1920 figures are as indicated.

The business is predominatingly a passenger one. In 1920, the passenger car revenue was 88.43 per cent of the total transportation revenue. The ruling percentage has been in the period in question from 84 per cent to 86 per cent. In 1919, it runs to 91 per cent, but this was due not only to an increase in passenger car revenue but also to a decrease in the freight and switching revenue. The freight and switching revenue for 1920 was, in round numbers, 10 per cent; in 1919, 7 per cent; while in the period from 1915 to 1918 it averaged from 12 per cent to 14 per cent. Miscellaneous revenue is responsible for from 1 per cent to 1.3 per cent.

The freight carried is all concerned with the movement on switching rates.

Exhibit No. 5 filed at the hearing gives a comparative statement of earnings, expenditures and results of operation for five months from November 1, 1920, to March 31, 1921. This shows a total revenue from all sources for this period of $42,285.75. Of this, 88.8 per cent is represented by passenger revenue.

After deducting operating expenses and allowing for other income of $125.21 under the heading of interest, there is a debit of $14,390.18; and making a further deduction from income for rent for leased road in the period in question, amounting to $3,671.55, there is a debit of $18,061.73.

On the figures as represented, the operating ratio for the fiscal year 1920 was 111.5 per cent, and for the five months ending March 31, 1921, 134.3 per cent.

Exception was taken in the course of the hearing and in the written submission of the town of New Liskeard to the propriety of the amount shown for rentals, as well as to the propriety of the amount shown as expended on maintenance of equipment. These items require, in connection with other details, further consideration. Subject to this, reference may be made to the figures available as bearing on the present condition of the railway. The Exhibit covering the five months ending March 31, 1921, was objected to at the hearing as not being characteristic, since it covered a period of the year in which traffic might be expected to be less heavy and operating expenses not only proportionately but absolutely greater.

V.

In order to obtain figures covering up to the latest date possible, a special return has been called for by the Board since the hearing. The latest possible date for which information is available as to earnings, expenditures and results of operation of the railway is to May 31, 1921; and the Board has now before it a detailed statement covering this seven months' period.

For the seven-months' period in question, the total revenue was $59,207.68. Of this, the passenger revenue represented in absolute figures $52,069.47, and in percentage 88 per cent. The total revenue for the seven-months' period in question as com-

pared with the corresponding period in 1920 was $59,207.68, against $67,807.38; that is to say, for the seven-months' period in 1921 there was a gross decrease of $8,600. Practically all of this was in passenger revenue, the decrease in this respect being $6,170. The total revenue for the seven months ending May 31, 1921, fell short of that for the same period in 1920 by 13 per cent.

The total expenditures for way and structures, equipment, power, conducting transportation, traffic general and miscellaneous amounted to $89,390.42, as against $69,485.04 in the same period for 1920. Taking into consideration interest, rent for leased road, and taxes, there was a deficit for the period in question of $35,964.70, as against $7,018.12 in the corresponding period in 1920.

Of the increase of $19,805 in the 1921 operating figures over the 1920 figures, $14,311 is under the item of equipment.

As pointed out, the total revenue for the seven months ending May, 1921, was $59,207.68, of which $52,937.97 were obtained from passenger revenue, baggage revenue, and special car revenue. Taking this as representing the total passenger revenue and extending it on a 12-months' basis, the result would be $90,750.81 for a projected year. Similarly extending the items of freight and switching and revenue from other operations, the respective figures would be $9,308.07 and $1,440.00, giving a total for a year projected on the seven months in question amounting to $101,498.88. This is open to the criticism that the seven months in question are not characteristic, so, instead of taking this basis the comparative figures for the same seven-months' period in 1920 may be taken. From a check, it appears that the passenger revenue for the seven months in question amounts to 56.3 per cent of the actual total for the year 1920, freight and switching to 57.4 per cent, revenue from other operations 48.1 per cent, operating expenses 51.7 per cent.

Applying these percentages to the seven months of 1921 in order to obtain a projected year by extending it for the balance of 1921, a return of $94,028.38 is obtained for passenger business; $9,446.26 for freight and switching; $1,745.30 for revenue from other operations; making a total for the projected year computed on the basis indicated of $105,219.94. The computed figure of $94,028.38 for passenger revenue may be compared with the figure of $103,078.36, the actual figure for 1920, and the total of the computed revenue of $105,000, in round numbers, may be compared with the actual revenue of $120,000 for 1920.

The operating expenses for the period in question are shown as $89,390.42. If extended on a monthly basis, the computed result would give $152,857.61. The operating expenses for the seven months ending May, 1920, were 51·7 per cent of the total operating expenses for that year. Applying this percentage, the computed operating expenses for the year ending October, 1921, would be $172,523.

VI

The company is not asking for a return upon the common stock. The investment in the road is set out by the company as amounting in all to $783,936.73. This is made up of roadway, including ties, rails, fastenings, wires, poles, etc., amounting to $316,576.26; equipment, cars, etc., $120,363.47; making a total for these items of $444,937.73. Then it is claimed that the value of the right-of-way and facilities of the Temiscaming and Northern Ontario, which are used exclusively by the Nipissing Central Railway, amount to $339,000, giving a total of $783,936.73.

As to the Temiscaming and Northern Ontario's facilities, this requires consideration in connection with the matter of rentals. As to the items of investment in road and equipment referred to, an analysis of these does not appear to be necessary as the company is not asking for return on the investment.

From the figures as presented in the returns to the Dominion Government for the calendar years 1919 and 1920, figures showing the passengers per passenger car-mile may be computed as follows:—

1919	1920
4.3	4.6

1919		
Car earnings per passenger car mile amounted to..	38.36 cts.	
Miscellaneous earnings per car mile	0.85 "	
	39.21 "	
Operating expenses and taxes per car mile ..	36.04 "	
		3.17 cts.
1920		
Car earnings per passenger car mile amounted to..	40.86 cts.	
Miscellaneous earnings per car mile..	1.27 "	
	42.13 "	
Operating expenses and taxes per car mile..	50.03 " (def.)	8.10 "

Exhibit No. 7 sets out a comparison between the car-mile expenses for the fiscal years 1915 and 1920. In 1915, the operating expenses per passenger car-mile were 22 cents. In 1920, they were 41 cents. It is, of course, apparent that on account of there being portions of 1919 and 1920 included in the fiscal year 1920 the figures given are not comparable with those of the calendar year.

Exhibit No. 4 filed by the railway comparing wages for 1915 and 1920 shows 98 per cent of an increase in 1920 over 1915. Prices are shown as having an increase of 149 per cent. There is also set out an estimate of the cost of maintaining the track leased to the Nipissing Central Railway Company with total expenses for maintenance-of-way and structures. The average maintenance cost was in 1915, $531 per mile; in 1920, $1,454. Further reducing this the average maintenance cost per lineal foot in 1915 was 10·05 cents; in 1920, 27·05 cents.

Exception is taken in the written submission of the town of New Liskeard to the figures cited as to wages, it being contended that the rate of wages as shown is the highest reached in the years 1920 and 1921, and reference is made to the probable decrease in wages. It is also contended by New Liskeard that in the matter of prices 1915 was an unfair basis as there was then a decline, while the period 1920 and 1921 represents the peak. The railway contests the allegation that 1915 was an unusually low year, and also sets out that 1921 prices quoted are actual present prices. The railway states that with the exception of trackmen's wages all wages on the Nipissing Central are at present lower than the standard rates on steam railways, and the readjustment will, therefore, probably proceed more slowly.

VII

The amounts charged by the Temiscaming and Northern Ontario Railway Company against the Nipissing Central Railway Company during the month of March, 1921, are as set out in exhibit 10 as follows:—

50 per cent cost of lighting Cobalt station..		$ 17 71
50 per cent wages of Caretaker Quibell, Cobalt station..		50 00
Work performed by T. & N.O. Ry., Sections 55-6, as per Payroll Distribution..		$39 71
Proportion of salary of Chief Electrician, 1 month at $215 at 30 per cent..		64.50
Rental of Joint Facilities, Running Rights, etc., as per agreement—		
Section 1—Kerr Lake Junction to North Cobalt—		
Interest	$4,365 00	
Maintenance	1,900 00	
Per year..	$6,265 00	522 00
Section 2—Haileybury Spur to New Liskeard—		
Interest..	$1,890 00	
Maintenance..	900 00	
Per year..	$2,790 00	232 50
Section 3—Haileybury Spur—		
Interest..	$1,000 00	
Per year..	$1,000 00	83 33

Section 4—Kerr Lake Branch—		
10 per cent gross earnings. (Earnings $1,165.95—March, 1921)		116 60
Clerical services—Cobalt staff—		
Per year..	$300 00	25 00
Rental for use of Cobalt station—		
Per year..	300 00	25 00
		$1,976 35

In explanation of the detail set out in exhibit No. 10, the Chief Engineer, Mr. Clement, was put on the stand. In the case of the Kerr Lake Branch, where 10 per cent of the gross earnings are paid as rental, he set out that the actual cost of this branch, according to the Temiscaming and Northern Ontario ledger account, was $175,000, or some $35,000 to the mile, which he considers as not being excessive in view of the fact that it was through a rough mining country. He stated that under the system of rental arrangements existing, the Nipissing Central is paying less than 1 per cent on the ledger value of the system. The Haileybury spur includes 1¼ miles of track which was put in at $25,000. The railway is utilizing an exclusive track of the Temiscaming and Northern Ontario Railway between Kerr Lake Junction and North Cobalt, and also on a stretch north of that town. The cost of this exclusive track, including road-bed and track, was stated to be $139,000. In a summary way, it is stated that the total cost of facilities which the Nipissing Central Railway leases from the Temiscaming and Northern Ontario is $339,000, and the rental being paid therefor is 2·8 per cent.

The trackage covered by the rentals is approximately 11 miles. The total rental as shown is $9,761.43. If this were capitalized at 5 per cent, it would mean a capital value of $195,228, which would represent $17,748 per mile of track. *In Montreal and Southern Counties Ry. Co. v. Town of Greenfield Park et al, 23 Can. Ry. Cas., 106, at p. 110*, the Montreal and Southern Counties Railway Company had track leased from the Central Vermont Railway. The rental in respect of running rights of 24·3 miles was figured as being equivalent to 5 per cent on $440,540, which would represent a capital stock of $17,412 per mile of railway. This was held to be a reasonable charge.

Various allegations were made in regard to the rentals paid to the Temiscaming and Northern Ontario Railway being excessive, but in view of the specific finding of the Board in the case above cited, I do not consider the rentals unreasonable.

VIII

As pointed out, the railway is operated by the general officials of the Temiscaming and Northern Ontario Railway. The 1919 report to the Dominion Government does not show any charges to the Nipissing Central for the salaries of general officers. It was stated by counsel for the railway at the hearing that a few exceptions were charged to the Temiscaming and Northern Ontario Railway Commission. Exhibit No. 10, which has already been quoted above, shows the charges of the Temiscaming and Northern Ontario Railway against the Nipissing Central during the month of March, 1921.

IX

In the course of the hearing, Commissioner Boyce drew the attention of counsel for the railway to the fact that while the maintenance of equipment for the fiscal year 1919 amounted, in round numbers, to $14,000, in 1920 it had increased to $28,000, and the reason for this increase was asked. Counsel stated that one factor was a collision between two cars which involved expensive repairs amounting, in round numbers, to some $7,000.

The chief engineer of the railway, in explanation of the figures, stated as follows:—

"The Board will notice that in 1915 and 1916 the expenditure was very low. We had some new equipment and we carried no depreciation accounts. Our repairs to the motor equipment were particularly low and we did not have heavy painting on the cars. That gradually increased until 1917 and 1918. Then there was a slight recession in 1919, which makes the 1920 figure look particularly large. Mr. Parmenter has referred to an accident, a casualty, where we had to put two cars into the shop for very heavy repairs. They were badly demolished, one end of each car. Then in 1919, there was a recession in our maintenance; we could not obtain men: and in 1920 there was an element of deferred maintenance and also an element of a special repair, and there is also a very substantial further increase in the rates of pay as compared with 1919."

It was further stated by him that the equipment repairs, under present conditions, would be as a minimum 7 to 8 cents per car-mile. It was pointed out that the railway had a limited number of cars; that it had no large shop in which they could be repaired; and that in this regard the railway was at a disadvantage in comparison with some of the other larger roads. He concluded, therefore, that the cost of 8 cents per mile without any casualties and without carrying depreciation accounts would result in an item of from $24,000 to $25,000 a year.

The passenger car mileage for the calendar year 1920, as reported to the Dominion Government, is 280,353. This at 8 cents per car-mile would give a charge of $20,428 for ordinary maintenance of equipment. The total as shown in the report for the same year is $30,172.18.

Counsel undertook to file a statement showing how the item of maintenance of equipment for the fiscal year ending October, 1920, was made up. This information is set out in his written submission in the following terms:—

"At the sittings of the Board of Railway Commissioners for Canada held at Haileybury on the 14th day of May, 1921, the Nipissing Central Railway Company was requested by the Board to furnish details of the item of $28,498.72 shown in exhibit 3 as expenditures for maintenance of equipment for the fiscal year ending October 31, 1920. In accordance with the Board's request, the following details of the item in question are hereby respectfully submitted:—

(*a*)	Superintendence of equipment	$ 200 22
(*b*)	Passenger and combination cars	17,230 75
(*c*)	Freight, express and mail cars	272 19
(*d*)	Service and equipment	1,682 46
(*e*)	Electric equipment of cars	8,389 12
(*f*)	Shop equipment	170 23
(*g*)	Shop expenses	553 77
		$28,498 72

"In explanation of these figures, it should be pointed out that the work represented by the larger items was performed by the Temiscaming and Northern Ontario Railway Commission for the Nipissing Central Railway Company at North Bay at actual cost including shop expenses, and nothing was paid the Temiscaming and Northern Ontario Railway Commission as profit.

"Item (*b*) includes the cost of general repairs to two passenger cars which were seriously damaged by collision. The repairs to one of these cars were

directly attributable to the accident, but the other car in addition to repairs made necessary as a result of the accident requiring general repairs due to ordinary service.

"It is submitted that as the company has been making no charge for depreciation on equipment or otherwise, a substantial margin should be allowed to cover such contingencies as collisions, derailments and other similar mishaps in order that the Company may be in a position to maintain its equipment up to the high standard of efficiency at which it has heretofore been maintained without being confronted with an annual operating deficit such as has occurred as a result of its operations during the years 1918, 1919 and 1920. Having regard to the general increased cost of material and labour, the efficiency of the service provided and the high standard of the company's equipment, it cannot be said that the cost of maintaining such equipment for the year ending October 31, 1920, was excessive. It is estimated that the company's expenditures for maintenance of equipment for the year ending October 31, 1921, without making any allowance for untoward contingencies such as collisions, derailments, etc., will be approximately $22,000 to $24,000. Railway statistics for the year ending June 30, 1919, show that the relation between operating expenses and gross earnings as applied to maintenance of equipment on the Hamilton, Grimsby and Beamsville Railway and the Niagara and St. Catharines Railway was 15.85 per cent and 13.9 per cent respectively, while on the Nipissing Central it was 13·62 per cent. It will thus be seen that the Nipissing Central compares very favourably in the matter of cost of maintenance of equipment with the two electric railways mentioned. In the case of the Hamilton, Grimsby and Beamsville Railway the Board has already ruled that it was justified in applying for leave to increase its passenger fares; also in the case of the London and Port Stanley and the Montreal and Southern Counties Railways increases were granted."

From the figures presented in exhibit No. 3, the total operating expense for the fiscal year 1919 was $102,140.11, while for the fiscal year 1920 it was $134,217.70, an increase of $32.071. The significant feature in this increase was maintenance of equipment, with an increase of $13,698.25, and conducting transportation with an increase of $10,322.51. These two items are responsible for $24,020 of the increase, or, in terms of percentage, 74 per cent.

X

An analysis of the 1919 returns of twenty-three electric lines Fort William and east, excluding the Nipissing Central, shows varying percentage relations between maintenance of equipment and operating expenses. A significant feature is that of the Montreal Tramways with a percentage of 21·07. This is significant in view of the fact that the road is on a cost plus basis and the various factors entering into cost are at the same time subject to the scrutiny of a special Commission.

A check of the operating expenses for the lines involved shows that maintenance of equipment bears an average ratio of 17·1 per cent to total operating expenses. This average figure covers electric lines of varying sizes operating under different conditions. It includes the Montreal Tramways, subject to a special commission, as already indicated, and the Toronto Street Railway with a percentage of 15·3; and this railway has been criticized in regard to alleged delinquencies in respect of maintenance. The list of railways includes, also, interurban lines. Some of the lines have been operating for a considerable number of years; others of them have been in operation a shorter period. The choice made affords a fair average index.

For the fiscal years 1919 and 1920, the Nipissing Central Railway spent on maintenance of equipment 14·48 per cent and 21·2 per cent of the gross operating expenses

respectively. A further analysis of the figures shows that the contributions to maintenance of equipment have been irregular and point to there having been considerable deferred maintenance. The percentages borne by maintenance of equipment to operating expenses for the period 1915 to 1920 are as follows:—

1915	1916	1917	1918	1919	1920
7·3 per cent	6·7 per cent	15·5 per cent	17·7 per cent	14·4 per cent	21·2 per cent

The sums spent on maintenance and equipment in the period in question amounted to $83,246. If the average figure of 1919, viz., 14·4 per cent, had been spread evenly over the period in question, the total would have been $81,732, or $1,500 less than was actually expended.

The twenty-three lines chosen are located in Ontario, Quebec, and the Maritime Provinces. If the choice is limited to Ontario, including Fort William and east thereof, the average for fourteen lines is 13·7. per cent. Considering the location of the Nipissing Central Railway, the 14·4 per cent of 1919 is not out of line. Further, the expenditures on maintenance of equipment are not to be judged by one year's expenditure alone; and I am of the opinion that, on the average, the expenditure is reasonable.

XI

While allocation of costs on a gross revenue basis is open to criticism, the criticism is less pertinent when, as in the present case, one type of traffic covers the bulk of the traffic earnings. The 1920 figures set out a deficit of $24,068.19. Allocating costs on a gross revenue basis, 85 per cent of the total revenue in 1920 being from passenger traffic, the same percentage may be applied to total operating expenses, taxes and rentals. The items in question total $144,328. Allocating 85 per cent to this, the passenger business contribution to cost should be $122,678. Since passenger revenue amounted to $103,078, passenger receipts thus fall short of passenger costs by $19,000.

Putting the figures in summary comparative form for the latest period available, viz, the seven months' period ending May, 1921, as compared with 1920, the following comparisons are available:—

(1) Deficit in period ending May, 1921	$35,964
(2) Decrease in passenger revenue in 1921 as compared with 1920	6,170
(3) Decrease in total revenue, ibid	8,600
(4) Decrease in operating expense, ibid	19,900
(5) Decrease in rental, ibid	618
(6) Decrease in taxes, ibid	373
(7) Passenger revenue percentage of total revenue	89%
(8) Passenger percentage of total cost, or 89 per cent of operating expense, rent and taxes, or 89 per cent of $95,172	84,693
(9) Difference between passenger percentage of total cost and passenger revenue, or $84,693 less $52,937	31,756

XII

In the discussion which has taken place, attention has been called to the lighter traffic of the Kerr Lake Branch.

The service between New Liskeard, Haileybury, Cobalt and Kerr Lake, taking the month of March, 1921, as typical, is set out in exhibit No. 8, as follows:—

	Cars	
	Round trips	Single trips
Kerr Lake to Cobalt	18	36
Cobalt to Haileybury	35	70
Haileybury to New Liskeard	18	36

At the hearing, a statement was submitted by counsel for the railway showing the passenger traffic during the month of March as taken by a special count. The daily figures are—

From Kerr Lake to Cobalt	362
Cobalt to Haileybury	2,068
Haileybury to Cobalt	697

that is to say, of the total 3,127 passengers per day, the traffic between Cobalt and Haileybury represented 66·4 per cent, Haileybury to New Liskeard, 22·3 per cent, leaving a percentage of 11·3 per cent for the traffic Kerr Lake to Cobalt.

If the daily traffic of 3,127 set out is taken as a measure of the yearly traffic, the result is as follows: 1,141,355. The figures for the calendar years 1919 and 1920 as returned to the Government showed respectively 1,253,599 and 1,293,137.

Counsel for the town of Haileybury, at the hearing, submitted that, in general, the Kerr Lake Branch caused a good deal of the expense of operation of the Nipissing Central. He stated this was a matter of general opinion, subject to correction, since he had made only a casual investigation. He said, however, there was very little traffic from Cobalt to Kerr Lake and there was likely to be less, and there did not appear to be any prospect of any increase in business from Cobalt to Kerr Lake.

Counsel for the town of New Liskeard in his written submission used the following language:—

> "Four cars are apparently necessary to carry out the present schedule between these different points. The fact being admitted that the Kerr Lake to Cobalt Branch is largely responsible for the loss sustained by this railway, it seems clear that the remaining part of the road from Cobalt to New Liskeard should not be penalized in order to maintain the unproductive portion between Cobalt and Kerr Lake, which was not originally, nor has it ever been, incorporated as part of the Nipissing Central Railway, but was simply leased from the T. & N. O. Railway as a matter of expediency for the time being. One-half of the cars and one-half of the crews are at the present time required to operate this unproductive part of the road from Cobalt to Kerr Lake, including the one-half hour service between Cobalt and Haileybury. The plan to be adopted is obvious."

He further stated that the Kerr Lake Branch showed a very large expenditure as compared with other sections of the Nipissing Central as now operating, and he contended this emphasized the reasons already given for the discontinuance of the lease from the Temiscaming and Northern Ontario to the Nipissing Central of this portion of the road.

Attached to the written submission of counsel for the railway is detail in regard to the earnings of the Kerr Lake Branch. From August 1, 1913, to July 31, 1914, an average monthly revenue of $1,227.64 was received. At this time, the freight revenue was to passenger revenue almost as three to one. The passenger revenue amounted to only some $330 per month. The road was at that time operated by the Temiscaming and Northern Ontario. The expenses were differentiated and showed an average monthly expense of $914.72. The first year the Kerr Lake Branch was operated by the Nipissing Central was from August 1, 1914, to July 31, 1915. This shows—

	Total Receipts per month	Passenger Revenue per month
August 1, 1914 to July 31, 1915	$1,587	$1,176
November 1, 1915 to October 31, 1916	1,763	1,328
1916-17	1,762	1,089
1917-18	1,501	1,058
1918-19	1,760	1,449
1919-20	2,081	1,410

At the hearing, suggestion was made by the Board that in view of the representations made as to the conditions alleged to exist in regard to traffic and expenses of operation on the Kerr Lake Branch there might well be a conference between the parties to ascertain what, if any, readjustments were mutually agreeable. In a written memorandum of counsel for the railway, the following is set out regarding this matter:—

> "The present schedule requires four cars. It is not practicable to make a reduction in the schedule between Cobalt and Kerr Lake without also reducing the service between Cobalt and New Liskeard. Otherwise the only saving would be in power consumption. There can be no appreciable reduction through a decreased service if it is necessary to hold the motormen and conductors under pay. The company has on several occasions suggested a reduced service, but in each case the municipalities have insisted that the service called for by the respective franchises be maintained. Following the recent hearing at Haileybury, a conference was held at which a reduced service was discussed. Mayor Tayler of New Liskeard subsequently wrote the officials of the company that a reduction of one car each morning that was suggested by the company would not be satisfactory. At no time is more than one car out of four on the Kerr Lake service and when rush hours and extra cars are considered the car mileage on the Kerr Lake Division is less than one-fifth the total instead of one-half as suggested by counsel for the town of New Liskeard If a service requiring only three instead of four crews is to be operated, even a partial service cannot be given to Kerr Lake unless slight reductions in the service to New Liskeard are made."

There is a general agreement that the expenses form a larger percentage on this section than on other portions of the system. It is not feasible to have this portion of the system with a rate adjustment different from that applying on other portions of the system. So long as it is operated there must be a minimum service such as will enable necessary and ordinary business to be carried on. See ruling in *Complaints* re *Alberta Train Service, Board's Files 27563.56.6, etc.*

I am satisfied that the present returns on this section are not adequate, bearing in mind the service as rendered. The initial burden of determination is on the railway as to whether readjustments of service should be made. At the same time, when a railway asks for an increase in rates it should determine whether economies can be effected; and where service is inadequately compensatory it may properly be adjusted in ease of the level of rate increases asked for.

The railway has filed a proposition for a revised service which will of necessity involve a readjustment between Cobalt and New Liskeard. This has been submitted to the parties. It is estimated that the revision proposed will effect an economy of $22 per day, or, approximately, $8,000 a year. Subject to taking care as far as is feasible of workmen who have, of necessity, to travel at certain hours, this being a condition in which North Cobalt is, on the evidence, the section interested, I am of opinion that the proposed revision may be allowed.

XIII

Under ordinary conditions, a factor properly to be considered in rate questions is that of some return on the capital invested. Leaving aside the stock issue of the railway, the investment in road and equipment is returned at $444,936. If interest were allowed on this at a minimum of 5 per cent it would amount to $22,000 a year.

It is obvious that if a railway is under private management, a return on capital is necessary if additional capital is to be obtained as needed. If the railway is under public management, the matter of carrying the interest charge may be undertaken by the Government concerned as a matter of public policy. This being a matter of

public policy does not come within the jurisdiction of a regulative tribunal unless so provided by statute.

In speaking of a privately chartered railway owned by the Government, the former Chief Commissioner, Sir Henry Drayton, said in the decision in the *Fifteen Per Cent Case*.—

> "There is no reason why the business of the Canadian Northern should be conducted at a loss, simply because the country owns it. Under the Railway Act, the Board certainly cannot deny the people as a whole a rate which would be fair to individuals when owning the transportation system. It appears that a national railway just as much as any other railway ought to be operated so as to cover the cost. . . ."

In the present instance, the province of Ontario is the owner of an electric railway performing suburban service of local interest. Through its agent, the Temiscaming and Northern Ontario Railway Commission, it states it does not desire to have a return on the capital invested considered as a factor entering into the present application. This is in ease of the burden the locality would have to bear.

XIV.

The application as launched relates to passenger business alone. It is submitted by the railway that the tolls received should at least equal the operating expenses, with some additional allowance to cover unforeseen contingencies.

While on the 1920 figures the case for an increase of 25 per cent on the passenger business, as asked for, has not been justified, the need for an increase has at the same time been justified. The 1921 figures, so far as available, show a still more unsatisfactory condition, and were a full year's figures available might possibly be taken as determinative of the percentage. While, however, projections have a certain value and may properly be given weight in forming a conclusion, at the same time the conjectural element contained therein must also be given weight.

I am of opinion that an average increase of 20 per cent will be necessary to cover a reasonable contribution from passenger business to the costs necessarily incident thereto. In the proposed tariff of the railway, provision is made for sale of tickets in quantity at a lower rate per ticket than is charged for single tickets. This practice should be continued.

The railway may file with the Board a tariff providing for an average increase of 20 per cent in passenger rates; said tariff to become effective thereafter on five days' notice.

The conditions which have brought about the necessity for this increase are, it is hoped, not of a continuing nature. It is hoped that operating conditions will improve and traffic increase. The Board, therefore, treats the matter as one of temporary relief and will retain the conduct of the case. The railway will be required to file with the Board monthly statements showing, in detail, earnings and expenses; also such other details, if any, as may be called for from time to time by the Board.

APPLICATION CHAMBER OF COMMERCE OF LEVIS FOR REDUCTION IN RATES ON GRAIN.

Judgment, Chief Commissioner Carvell, July 21, 1921. concurred in by the Deputy Chief Commissioner and Commissioner Rutherford.

This is an application of the Levis Board of Trade for the same rate on grain to Levis as is granted to the city of Quebec. The contention is that, at the present time, the all rail rate from Port Arthur and Armstrong to Quebec is 40½ cents, whereas the rate to Levis, just across the river, is 44 cents, making a difference of 3½ cents against Levis and to the advantage of Quebec.

It seems that, up to the year 1918 or thereabouts, the rate on grain and grain products shipped from Western points to Levis was the same as to Quebec. It was then increased to 6 cents and finally reduced and then increased by the different Rate Judgments until now the difference is 3½ cents. It also seems that the tariff between Montreal and Quebec and Montreal and Levis is the same.

The allegation of the Levis Board of Trade is that this difference of rate is practically diverting the distribution business away from the Levis merchants and placing it in the hands of the Quebec merchants, because it seems that the car-load rate from Quebec to any point on the Intercolonial as far east as Rivière du Loup is the same as from Levis, although the l.c.l. rate from Quebec up to a distance of about 100 miles is greater from Quebec than from Levis. The same condition exists on the National Transcontinental as far east as Monk.

It is alleged by the C.N.R. authorities that, on grain coming from the west via either the C.N.R. or the N.T.R., they are entitled to a higher rate to Lévis than to Quebec because they have to cross the Quebec bridge, a very expensive structure, although, as everything must come to the bridge on the Quebec side, the actual distance over the bridge and down to Levis would be practically no greater than from the bridge down to the city of Quebec.

It also must be borne in mind that, now that the Grand Trunk is being merged as an integral part of the C.N.R. system, their rate to Levis is the same as to Quebec, and it would seem that some change either by raising the Quebec rate or lowering the Levis rate must be worked out immediately this amalgamation takes effect.

I am not able to convince myself that the cost of the bridge should be seriously considered by this Board in deciding what would be a just and reasonable rate. Rather, in my opinion, it should be the cost of operating the railroad that should govern to a very great extent, although maintenance would be a part of that cost and the maintenance of the bridge would, no doubt, play some part.

However, as a matter of equity to the merchants of Levis, considering that the distance is practically the same, I think the rate to Levis should be the same as to Quebec, and, therefore, think an order should issue authorizing the Canadian National Railways to file a rate to Levis of 40½ cents from the head of the Lakes, the same as is now in existence to Quebec.

Re CLASSIFICATION MINIMUM WEIGHT OF MIXED CARLOAD OF OFFICE FURNITURE, FILING CASES, AND SUPPLIES

Judgment, Chief Commissioner Carvell, July 25, 1921, concurred in by the Assistant Chief Commissioner and Commissioner Boyce.

This is an application of the Canadian Manufacturers' Association on behalf of the Office Specialty Company, Limited, for a reduction in the classification minimum weight of mixed carloads of office furniture, filing cases, and supplies.

I think it would be an unwise course to reduce the minimum on such a commodity when it has been proved that it is quite feasible to load an ordinary car to the minimum required. In fact, in six cars referred to at the hearing, two to Winnipeg and four to Montreal, it was shown that they all exceeded 24,000 pounds and averaged 26,804 pounds per car. No doubt it would be an advantage in shipping to small communities to have a reduced minimum, but that is simply taking the money from the railway company for the benefit of the manufacturers.

I entirely concur in the report of Mr. Brown, Chief Clerk, Traffic Department, herein, and think the application should be dismissed.

APPLICATION RUBBER ASSOCIATION OF CANADA FOR REVISED RATINGS ON RUBBER TIRES AND TUBES

Judgment, Chief Commissioner Carvell, July 25, 1921, concurred in by the Deputy Chief Commissioner.

This application was heard by the Board on March 15 last, and, in substance, is a request by the Rubber Association of Canada to have the carload classification on pneumatic tires and tubes reduced from second to third class, the minimum to be increased from 16,000 pounds to 20,000 pounds.

This same application was before the Board in November, 1917, but was refused. Conditions, however, since that date, have very materially changed. The business has grown from a few cars to over 1,000 cars per year, and the United States classification in all territories has been established at third class with a 20,000 pound minimum. This of itself would not be a compelling reason for a like change in Canada. The difficulty is that large quantities of tires are being imported into Canada from United States points under the joint tariff, which is third class, entering into competition with Canadian tires which are classified second.

In my judgment, while it might not be, strictly speaking, discrimination because of the joint through tariff, yet it is an undue preference given to the American manufacturer over his Canadian competitor, and, therefore, I think the classification should be changed accordingly to apply both to pneumatic tires and rubber inner tubes, especially as the Canadian third class rate is considerably higher than the American third class, as will be shown by the following comparison:—

RATES TO TORONTO

From	U.S. Rates		Canadian Rates			
	1st	3rd	1st	2nd	3rd	4th
Boston	112	76½	112	98½	85	70
New York	119½	80	121	104½	91	76½
Cleveland	102	68	101½	90	76½	64
Akron	106½	70½	104½	91	79½	66
Chicago	116	77½	117	103½	88	73½
St. Louis	139½	93	140½	122	104½	88
Albany	88	60	90	77½	68	56½

They also ask that rubber pneumatic tires in metal strapped and sealed bundles be given the first class l.c.l. rate instead of 1½ times first as at present. It seems that if rubber tires are crated, they move at the first class l.c.l. rate, and otherwise at 1½ times first. The crating is a provision found in numerous instances in railway classifications, and, of course, is for the purpose of protecting the goods from breakage and for facility in handling. I fail to see how there could be any possibility of breakage in a bundle of rubber tires securely fastened together with steel bands, and I also fail to see why they could not be handled even more cheaply in that form than when crated, and, for these reasons, I think tires, when properly strapped, should receive the same classification as when crated.

Therefore, an Order should issue changing the classification on rubber pneumatic tires and rubber inner tubes from second to third class, with the minimum increased from 16,000 to 20,000 pounds, and, when in metal strapped and sealed bundles, the l.c.l. rate should be reduced to first class.

Judgment in dissent, Assistant Chief Commissioner McLean, July 26, 1921.

Regarding the application to have rubber pneumatic tires, in metal strapped and sealed bundles, given a rate of first-class L.C.L., instead of 1½ times first, as at present, it seems to me that the method of taking care of the package puts it in a position which is comparable, as to classification, with the classification in boxes and crates. Admittedly, the factor of damage does not enter in. I am of opinion, therefore, that the first-class rate L.C.L. should be allowed.

In regard to the carlot rating asked for, involving a reduction from second to third class, it appears from the statements of applicants, as frankly set forth in their application, that the practice of price equality prevails in Canada regardless of the selling price. This may be, and no doubt is, a very satisfactory method of conducting business, but the effect of the reduction asked for is that it will enure entirely to the Canadian tire industry, and not at all to the consumer.

In *Berliner Gramaphone Co. vs. Canadian Freight Association, 14 Can. Ry. Cas. 175,* the Board had before it a case involving the classification of gramaphones, the situation being that the Berliner Company had the entire control of the selling price of the gramaphones. In a judgment then rendered, I used the following language:—

> "In the present application, the Board is confronted with a situation in which the retail price of the article produced is entirely controlled by the producing company. The price is uniform regardless of local conditions, length of haul, or freight charges. The price cannot be increased without the permission of the Berliner Company, and if the price is reduced by a dealer, the penalty is that the dealer will no longer be permitted to carry the instruments in question. It is not within the scope of the Board's jurisdiction to pass any opinion upon the legitimacy of the arrangement above, outlined. It is justifiable to recognize the fact.
>
> "It would appear upon the facts of the application before the Board that it is in essence simply a question of readjusting profits between the railway and the producer, jobbers and retailers concerned, and that the consumer in no way stands to gain from any change in the situation. It has not been established that the rates are unreasonable, and I am therefore of the opinion that a case has not been made out for the interference of the Board."

It should be pointed out that the majority decided against me; at the same time the majority decision turned upon the question as to whether a gramaphone was a "musical instrument," and, therefore, entitled to enter into the "musical instruments" list in the freight classification. I did not disagree in regard to the gramaphone being a musical instrument; and as the judgment of the majority went on this ground, the position taken in my judgment was, in reality, not overruled. What was involved in that application is similar to what is involved here. The commodity concerned is disposed of at a fixed price. If I could see that the granting of the application would have any bearing upon some portion at least of the reduction getting to the consumer, this would have weight with me. On the facts of the present application, I see no chance of it.

EXCHANGE RENTALS AND CHARGES FOR SERVICE, BRITISH COLUMBIA TELEPHONE COMPANY

Judgment, Assistant Chief Commissioner McLean, July 26, 1921.

The reasons for judgment of the Chief Commissioner set out that the correctness of the physical valuation submitted was not challenged.

It was stated by counsel for the city of Vancouver, as an argument against the adoption of physical valuation as a basis in the present case, that physical valuation

had not been taken by the Board as a basis for rate-making in any case which had come before it. This presentation of the matter requires some analysis.

In the *Montreal Telephone Case, 15 Can. Ry. Cas., 118,* figures were submitted by the Bell Telephone Company setting out its estimate as to the cost of replacing the plant in Montreal. The city of Montreal took the position that the proper basis for the computations that would show the reasonableness or otherwise of the rates was to be found in the book value of the plant. The Board held that the Bell Company being, in general, in satisfactory financial condition, and it not being shown that Montreal was not giving its proper proportion to the general revenues of the company, it was not necessary to go into any detailed analysis of the computations submitted by the company as bearing upon the physical valuation. Thereafter, a test of the alleged excessive revenue as set out by the City of Montreal was made on the basis of book value as contended for by the city, and it was held that the facts did not justify the reduction asked for.

In the two general rate applications of the Bell Telephone Company which have been before the Board, the applications as launched turn upon the question of the return on capital; consequently a ruling upon the question of physical valuation was not necessary to the issue involved.

The only case where there has been a pronouncement by the Board on the matter of physical valuation in a decision of the Board, as distinct from what is contained in an individual judgment in concurrence, was the interim judgment of former Chief Commisioner Drayton in connection with the Bell Telephone Company's application launched in 1918. There, in dealing with the material necessary to be submitted by the company as bearing on the *temporary* increase, the judgment contained the following language, pointing to physical valuation as a basis of *permanent* rates:—

> "In my opinion, should it be found necessary to increase the company's rates, they should be increased subject to the Board's further order and to the further provision, in the meantime, that such data be collected and valuations made as will enable a proper telephone rate to be determined when conditions are ascertained to be constant."
>
> "I would, therefore, give effect to the spirit of the municipality's application and provide merely for temporary increases if necessary. In my view, however, their duration ought also not to be fixed. They should remain in effect until operating costs and plant values become normal, when the permanent rates ought to be considered."

If the contention advanced during the hearing that rates should be fixed for localities after analysis of the local investments in plant in each case, is accepted, it of necessity follows that a valuation would have to be made. In the absence of complete detail as to book costs, physical valuation would then have to be used. I understand from the evidence at the hearing in Vancouver that Mr. Judson testified that, wherever possible, book costs were made use of in the valuation submitted by him.

Emphasis was laid, in the course of the hearing, on the fact that the total reserve for depreciation was in excess of 30 per cent; and it was argued that this of itself was evidence of the fact that an increase in rates was not necessary.

At the hearing in Vancouver, in answer to a question bearing on the amount in the depreciation for reserve, Mr. Halse said that if the company had been able to replace the material which should have been replaced the figure would have been nearer 20 per cent.

In the evidence, Mr. Meldrum stated that in the United States the practice was that "after a company has been going one or two cycles of the wearing out of the plant, we consider 20 per cent a fair, honest and conservative balance to keep in that reserve." His position was that when a plant was well established a 20 per cent

maximum was normally sufficient. He stated, in substance, that the applicant telephone company had not had a sufficiently long life to allow this limitation to apply. (Evid. vol. 362, p. 7976.) Mr. Hammond V. Hayes gave testimony to substantially the same effect. In evidence before the Board in the Bell Telephone Company's applications of 1918 and 1919, Mr. Hagenah, who appeared as an expert for the city of Montreal (Evid., vol. 299, p. 2421), stated, "That telephone plant which has lived approximately through one cycle of telephone life, when maintained in a normal and usual manner, is in an approximate 80 per cent condition."

There is an apparent agreement among the experts that before the 20 per cent factor can be taken as a criterion, the plant must have lived through one cycle. If a rate of 6.04 per cent is taken, one cycle means a life of 16.6 years. The plant as at present developed has had a shorter life than this.

I agree in the findings of the Chief Commissioner as to the rate increases which are on the record found necessary and justifiable.

Judgment, Chief Commissioner Carvell, November 17, 1921, concurred in by the Assistant Chief Commissioner and Commissioners Boyce and Rutherford.

When the British Columbia Telephone Company applied to this Board, in the month of March last. for an increase in rates, they filed a schedule attached to their application which they suggested should be approved by the Board as submitted. This schedule suggested certain rates for all exchanges and services in the system, an examination of which showed that increases amounting to about 15 per cent were asked for in Vancouver, Victoria, New Westminster, Nanaimo, and North Vancouver, but no increases in exchange rates were asked for in any other exchanges in the province. It is unnecessary to refer to the services, as there is no difference of opinion about these.

When the judgment was written, it was particularly stated at the beginning thereof as follows:—

> "This is an application of the British Columbia Telephone Company for an increase in rates amounting to about 15 per cent on a certain portion of its business as carried on at the exchanges particularly mentioned in the application. The application does not apply for any increase in the Kootenay District, etc.—

and at the hearing, both in Vancouver and Ottawa, it was distinctly understood that it was not the intention of the applicants to increase exchange rates excepting in the five places hereinbefore mentioned.

With this understanding in my mind, I, therefore, stated on page 13 of the judgment as follows:—

> "I, therefore, find that the company should be allowed to increase their rates for the exchanges and services set forth in the application by the sum of 10 per cent"—

which I thought quite clearly expressed the intention of the Board and coincided with the general understanding at the hearing.

The company thereupon filed a tariff applying the 10 per cent increase to all exchanges, not confining it to the five heretofore mentioned, claiming this was their interpretation of the judgment.

The company has not properly interpreted the judgment, and the increase in exchange rates should be allowed only in the five places hereinbefore referred to. Tariffs to that effect should be filed immediately, effective December 1 next.

The tariffs in existence for the past three months were filed in accordance with the provisions of the Railway Act.

COMPLAINT NUKOL FUEL COMPANY, LIMITED, TORONTO, AGAINST CANCELLATION OF COMMODITY RATES ON COAL BRIQUETTES

Judgment, Assistant Chief Commissioner, July 28, 1921, concurred in by Commissioner Rutherford.

Effective March 16, 1920, the Grand Trunk and Canadian Pacific Railway Companies published commodity rates on coal briquettes from Toronto to a number of points in Ontario; and on March 18, 1921, the rates were withdrawn by the railway companies. The commodity rate which was thus in operation in the period in question out from Toronto was the Buffalo rate on briquettes made applicable from Toronto.

At present briquettes move out from Toronto on the coal mileage rate. What is asked for is a commodity rate equal to 75 per cent of the coal mileage rates.

It was stated by the applicant that there was competition from the coal and imported briquettes moving in by way of Buffalo. In respect of movements to points in northern Ontario the evidence was that the applicant could compete with the coal rate from Buffalo. He represented, however, that on easterly and westerly movements his product was submitted to "rather close competition" by the rates from Buffalo on either coal or imported briquettes.

Some exception was taken to the raw material for briquettes moving on the same rate as prepared sizes, and it was set out that in the United States a lower rate was given to briquetting plants. The tariffs covering the practice alleged are not on file with the Board, and the subject matter of the tariffs is one not under the Board's jurisdiction. In view of the fact that the applicant is asking for a reduction on the manufactured article out, not on the raw material in, the comparison is not conclusive.

Tariffs have been checked showing the movements from Buffalo and from Detroit to various points. On movements from Buffalo into Canada seven points have been checked with mileages from 22 to 64. By Michigan Central tariffs, the rate for anthracite briquettes and anthracite coal, prepared sizes, is the same. From Detroit to various Canadian points, the longest distance being Toronto, the briquette rate is higher. Toronto, with a rate of $1.15 on coal, has a rate of $1.65 on briquettes. Brampton has rates of $1.45 and $1.65. Orangeville, a branch line movement, has a rate of $1.80 on coal and $2 on briquettes. London and St. Thomas have respective rates of $1.25 and $1.45.

In dealing with increases in rates in its judgment of September 6, 1920, the Board prescribed a very much lower rate of increase on coal than was provided for in the increase of rates south of the international boundary. While in official classification territory there was, in general a 40 per cent increase allowed, the increase on coal in Canada varied from 10 cents to a maximum of 20 cents per ton. What is asked for here is a reduction as to a particular item moving on the coal mileage scale.

During 1920, the applicants moved about 200 cars on the Grand Trunk. The Canadian Pacific submitted a statement of some 50 cars moving in the period March 15, 1920, to April 15, 1920. On further analysis of these, it appears that 35 of these were handled by the Grand Trunk and 15 by the Canadian Pacific. During the period the commodity rates were in operation, the Grand Trunk moved 71 cars of briquettes to points to which commodity rates had been established. The commodity rates operated as a maximum to intermediate points, and seven cars of briquettes moved to such intermediate points; 122 cars moved to points to which no commodity rates were effective; consequently they were handled on the mileage basis. The coal mileage basis is the rate on which the local movements on coal and on gas-house coke take place. During the period when some 200 cars of briquettes moved, 78 of these

being on the commodity rate, there were some 75,000 tons of coal moved on the coal mileage rate, which would be equivalent to the movement of 1,500 cars.

It was admitted by the applicant in evidence that the briquettes in question were somewhat higher in thermal units than anthracite. The following discussiou took place:—

> "The ASSISTANT CHIEF COMMISSIONER: How does your briquette compare in thermal units with anthracite?
>
> "Mr. SCHUCH: It is higher in thermal units, very slightly. We make no point of that.
>
> "The ASSISTANT CHIEF COMMISSIONER: A ton of your product is equal, and perhaps somewhat better than a ton of anthracite in fuel value?
>
> "Mr. SCHUCH: Yes, sir. I can point to you that our briquettes have an ash content of 16 per cent, and I can show you shipments of coal coming in with as high a percentage as 25 of ash.
>
> "The ASSISTANT CHIEF COMMISSIONER: It is claimed for briquettes that there is a smaller percentage of ash so that it is really the competition of a better product selling at a lower price.
>
> "Mr. SCHUCH: That is quite so. There is coming a day when briquettes will be able to demand a price equal to or exceeding that of coal."

What is being asked for is, in effect, a preference for one article now moving on the coal mileage scale in comparison with other articles moving on the coal mileage scale, with which articles the briquettes are competitive.

The Board has recognized that where a carrier handles the raw material in and the finished material out, it may consider this and give a reduced rate on the inbound traffic.

Michigan Central Sugar Co. vs. C.W. and L.E. Ry. Co., 11 Can. Ry. Cas., 353.

International Paper Co. vs. G.T., C.P. and C.N. Ry. Cos., 15 Can. Ry. Cas., 111, at p. 115.

What is asked for here is the converse; that is to say, it is asked that there should be a reduction on the outbound rate. Further, the reduction asked for, for example in the case of the Grand Trunk, is not limited to a reduction out on the manufactured material made from the raw material carried in on the Grand Trunk; but the application as launched is, in effect, one for a reduction in rate outbound, irrespective of the fact whether the outbound carrier has had the advantage of the inbound haul.

The judgment in the *International Paper Company,* above referred to, raised the query as to whether the original shippers should not obtain in all instances the same rates on the rough commodity irrespective of the movement out of the finished material (see p. 115). It concluded that on account of the established practice, it would be impossible to discontinue the application of the principle without a complete dislocation of existing tariffs built up on this practice.

While there is no question that the Board has power to deal with the question of through rates, and to provide that the through rates shall be less than the sum of the locals, what is herein involved is a matter of two separate contracts of carriage—the contract of carriage in on the raw material and the contract of carriage out on the finished material, the two contracts not being of necessity tied up to movements on the same railway. Unless there are special factors affecting the briquette industry, the Board, in my opinion, would have to look to the reasonableness of the rato in on the raw material and the reasonableness of the rate out on the finished material.

Towards the close of the hearing, the opinion was, in substance, expressed by applicant that a final determination of the matter would properly rest upon a wider development of the industry than at present existed. Mr. Schuch, who appeared for

the applicant, expressed the opinion that it would be unfair to the briquette business in general for the Board to make a decision on the business concerned with the single plant of the applicant; and in response to a query as to whether the Board should wait until some more plants were established, he said he would rather have this done than have a higher rate established and maintained. I understand that what is meant by the latter statement is a declaration by the Board that the higher rates should be maintained.

On what is before the Board, I am of opinion that the application for a reduced basis applied for has not been justified.

COMPLAINT CONSUMERS METAL COMPANY, LIMITED, OF MONTREAL, AGAINST RATES CHARGED ON SCRAP IRON FROM CANADA TO THE UNITED STATES

Judgment, Chief Commissioner Carvell, August 3, 1921, concurred in by the Deputy Chief Commissioner and Commissioner Boyce.

At the Montreal sittings on March 23 application was made by the Consumers Metal Company, Limited, of Montreal, taking exception to the consolidated classification, which figures the ton at 2,000 pounds instead of the gross ton at 2,240 pounds. It appears from the evidence that prior to January 1, 1920, what was known as the official classification applied in both directions in international traffic between the United States and Canada. On that date there was a consolidation of the western, southern and official classifications into what is known as the consolidated classification. In the old official classification scrap iron was shown as sixth class, with a note to the effect that 2,240 pounds would be taken as 2,000 pounds and this was changed by the consolidated classification.

If I correctly understood the applicant, he really asked that an exception be made of still carrying 2,240 pounds for a ton, the same as is still being done by some of the American roads. The Canadian railways objected, claiming that the consolidated classification should govern. The real difficulty seemed to be, that on account of commercial depression there is very little demand and a very low price for scrap iron, and it was the applicant's opinion that if the classification could be changed it would assist him to that extent.

This, of course, is true, but if rates were to be built upon the market price of the commodity, under present conditions, scores of commodities would require a reduced rate. In my opinion the cost to a company carrying the goods is the true criterion and not the selling price, and therefore I feel the application should be refused.

APPLICATION SUTHERLAND-INNES COMPANY, LIMITED, OF CHATHAM, FOR A CLASSIFICATION ON COOPERAGE STOCK SIMILAR TO LUMBER RATE BASIS

Judgment, Assistant Chief Commissioner McLean, October 3, 1921, concurred in by Commissioner Boyce.

By the Board's decision of July 30, 1904, in the matter of the *application of the Sutherland-Innes Company and the Wallaceburg Cooperage Company vs the Pere Marquette Railroad Company, the Michigan Central Railroad Company, the Wabash, the Grand Trunk and the Canadian Pacific Companies*, it was pointed out that it had been the general practice of the railways to include cooperage stock by carloads in their special mileage tariffs on lumber so as to take the mileage lumber tariff rates to points in Eastern Canada. Some question had arisen on account of the cooperage stock having been omitted from some of the tariffs, and the judgment held that

cooperage stock should be included at the same rates as common lumber in the mileage tariffs of the railways applying on lumber and other commodities carried at lumber rates.

In addition, there was dealt with in the judgment a question of specific rates to Montreal from Chatham and Wallaceburg. The commodity rates so established took into consideration, as set out in the judgment, a variety of factors pertinent to the situation. While a commodity rate basis from Chatham and Wallaceburg was directed, the following language is contained in the judgment:—

> "It is not intended by this order that any special rates on lumber lower than the special mileage tariffs, made in competition with water routes, or for other exceptional reasons, must necessarily be charged on cooperage stock also."

This action left open to the Board to consider on its merits each specific application for a community rate basis.

At present there applies on the movement of cooperage stock from Smiths Falls to Montreal the rates applicable under the lumber mileage scale. This rate, as affected by the various rate increases which have been found necessary, is now 20½ cents. The commodity lumber rate from Smiths Falls to Montreal, as affected by the various rate increases, is 17 cents per 100 pounds.

The matter as launched in the present application is in effect that the commodity lumber rate should extend to cooperage stock generally. On the matter as developed a justification for a direction of general application has not been made out. I am, at the same time, of the opinion that the lumber commodity rate should, in the case of the movement from Smiths Falls to Montreal, be made applicable to cooperage stock. Said rate should be filed to be effective within ten days from the date of the order.

CAR DEMURRAGE RULES

Judgment, Chief Commissioner Carvell, October 10, 1921, concurred in by the Assistant Chief Commissioner, Deputy Chief Commissioner, and Commissioner Rutherford.

An application was launched some months ago by the Canadian Manufacturers, in which they were joined by representatives of many Canadian industries, asking that the car demurrage rules as prescribed by General Order No. 201, bearing date the 1st day of August, A.D. 1917, be amended, practically asking that the rate be $1 per car per day after the 48 hours free time.

At the hearing in Ottawa on the 21st of June last, the following gentlemen appeared for their respective interests:—

S. B. Brown, for the Canadian Manufacturers' Association.

Thomas Marshall, for the Toronto Board of Trade and the Halifax Board of Trade.

George B. Ruickbie, for the Canadian Pulp and Paper Association.

W. S. Tilston, for the Montreal Board of Trade.

G. B. Watts, for the Dominion Millers' Association.

R. L. Sargent, for the Canadian Lumbermen's Association.

E. P. Flintoft, for the Canadian Pacific Railway.

J. M. Daly, for the Canadian Coal Association.

W. R. Caldwell, for the Hamilton Chamber of Commerce.

W. C. Chisholm, K.C., for the Grand Trunk Railway.

Rule 9 of General Order No. 201 reads as follows:—

"RULE 9—DEMURRAGE CHARGE

"After the expiration of the free time allowed, the following charges shall be made until the car is released:—

For the first day, or fraction thereof, of delay, One dollar.

For the second day, or fraction thereof, of delay, Two dollars.

For the third day, or fraction thereof, of delay, Three dollars.

For the fourth day, or fraction thereof, of delay, Four dollars.

For the fifth and each succeeding day, or fraction of a day, Five dollars.

It was contended on behalf of most of the applicants, and, I think, admitted, that this rule was issued as a war measure for the purpose of securing the release of equipment in the shortest time possible rather than as a revenue measure. In other words, a penalty was imposed on the detention of cars above forty-eight hours' free time in the hope that it would facilitate their unloading to some extent. It is now contended that as the war is over and especially as equipment is very plentiful upon all Canadian roads, the rule should be abolished and there should be a return to pre-war conditions.

As the case developed, there seemed to be considerable difference of opinion, but I think I can fairly represent the views of the great majority of the interests represented in stating that they were all in favour of a higher rate than $1 per day under certain conditions, the difficulty being as to when the higher rate should begin. All agreed, of course, that there should be forty-eight hours' free time. I think all agreed that, for the first day thereafter, there should be a charge of $1, and many agreed that the ultimate charge should reach $5 per day. Everybody admitted the necessity of releasing equipment at the earliest possible moment.

If there continued to be the same excess of freight equipment in the future as exists at the present time, I would have no hesitation in recommending a repeal of rule 9 and going back to the $1 per day, but we have no guarantee of such a condition. In fact, I think every person can sincerely hope that there will be a change and, when the change comes, then, in my judgment, there should be some inducement to compel shippers to use all due diligence in loading and unloading freight cars. Perhaps the late Mr. Tilston, representing the Montreal Board of Trade, expressed my views better than I can do myself when he stated as follows:—

"We think very often a man who is honestly endeavouring to unload his car, but is frequently unable to do so the first day through weather conditions, or in getting cars from different places, should not be penalizd, and that is probably the reason the first day the per diem is left at $1, so that he will not be penalized. If that $1 per day was allowed to continue without any increase, it would be cheaper for a man to store the great bulk of his goods, such as coal, oats, and material in cars rather than unload them, and a system such as that, in a very few days, would block up all the terminals and prevent proper movement and delivery on team tracks and sidings of the ordinary commercial traffic. The man who unloads his freight within one or two or three days after the free time is not the man this penalty reaches, or the man they are trying to get at. It is the man who has no facilities, or no proper facilities, and who is holding cars on the market."

Mr. Tilston seemed to agree with the suggestion which had previously been made by the Assistant Chief Commissioner that, for the first two days after the forty-eight hours' free time, the charge should be $1 per day and thereafter $5 per day. This, in my judgment, would be a reasonable rule to apply. There ought to be no good

reason why a car could not be unloaded in four days, which would only cost $2 by way of demurrage. If kept for a longer time, even if through causes over which the shipper has not control, still, in the interest of the general release of equipment, I think a penalty of $5 would not be unreasonable, and, therefore, think order should be amended accordingly.

APPLICATION DEPARTMENT OF RAILWAYS AND TELEPHONES, ALBERTA, FOR THE PRIVILEGE OF STOPPING IN TRANSIT CARLOADS OF TELEPHONE POLES FOR TREATMENT

Judgment, Commissioner Boyce, October 25, 1921, concurred in by the Chief Commissioner.

Unless what is asked for can be granted by this Board, by virtue of section 312 of the Railway Act, subsection (*e*) added as a new subsection in the Consolidation of 1919, I do not see that it is possible for this Board to exercise jurisdiction and give the service asked for.

The creosoting of telephone poles in transit is not a customary or usual service in connection with the business of a railway company, but what is involved is that the section, as amended, be invoked to give the Board a jurisdiction it has uniformly held that it does not possess, namely, to order the carrier to give the shipper the right to stop-off in transit telephone poles for creosote treament and continue transit in the improved condition on the one through rate.

During the hearing of the case, the Chief Commissioner remarked that if the Board exercised jurisdiction under the subsection mentioned and granted an application of this kind it would mean that the Board would have a tremendous number of the like applications, and, as Mr. Lanigan pointed out for the railway company, the local freight business of the railway would be dislocated and demoralized. A number of instances were cited where similar applications might be made with equal force. In several cases this Board has held that it has no jurisdiction to order such a service. That it is wholly a privilege—not a right—accorded by the railway company to the shipper, and heretofore has been restricted to the milling in transit of grain, and that the jurisdiction of this Board is restricted solely to questions of discrimination in the granting of such privilege to one shipper and denying it to another, under conditions that call for the intervention of the Board to prevent unjust discrimination, or difference of treatment.

Sudbury Brewing Co. v. C.P.R., 18 C.R.C., p. 411.
Koch v. Pennsylvania R.R. Co., 10 I.C.C.R., p. 675.
United Grain Growers et al v. Can. Freight Association, 24 C.R.C., p. 128.

The same principle was followed and affirmed at the hearing of an application by the Shingle Agency of British Columbia for an order that the railway companies in that section of the country (British Columbia) allow the privilege of dressing and sorting in transit rates—Board's file No. 27194—in the course of which hearing the then Chief Commissioner said (vol. 251, p. 4181):—

> "The Board has no jurisdiction unless there is a question of discrimination. We cannot interfere except in cases of discrimination."

Under the circumstances, I would refuse the application.

APPLICATION FESSERTON TIMBER COMPANY, LIMITED, OF TORONTO, FOR SAME RATES ON RAW WOOD MATERIAL FOR THE MANUFACTURE OF LATHS, AS PUBLISHED FOR THE CARRIAGE OF CORDWOOD

Judgment, Commissioner Boyce, November 8, 1921, concurred in by Commissioner Rutherford.

At the close of the hearing counsel for the railway intimated that the complaint would be given some further consideration with a view of the possibility of coming to some arrangement with the complainants. It is intimated that disposition must be made by the Board upon the case and arguments as presented.

The complaint is based upon the contention that as the complainants are manufacturing lath direct from the log (upon which they have been paying the mileage rate on log for manufacturing purposes) the rate upon the inward material (cordwood) should be no higher than that on cordwood shipped to chemical plants, or on pulpwood to mills for manufacturing purposes.

It is alleged in the initial complaint that the cordwood the complainants use is "the rough material after the lumbermen and tiemen have taken all the logs they require for lumber and railway ties, and we also buy from the settlers material they cannot sell for anything else." They state (April 5, 1920) that they are not shipping in logs, and buy the "ordinary soft cordwood that is taken out," or as Mr. Mason put it, at the hearing, "they manufacture lath, not in the ordinary way as a by-product of the log, but from the refuse of logs, which for many years has been unsaleable." They claim that the industry should be entitled to special consideration because it employs and makes use of refuse timber which would otherwise be left in the bush, paying the settlers a price therefore which they otherwise could not get, creating employment for men, and furnishing traffic for the railways, out of material otherwise refuse and valuelesss.

These contentions are not entirely borne out by the facts. The advertisement of the firm calls for cordwood, of pine, spruce, balsam, hemlock, tamarac, poplar, cedar and ash of particular specifications, namely, "4 inches and up in diameter at small end, and cut 49 inches long. Sound straight timber. Any wood *now cut* 48 inches long will be taken same as 49 inches, but all wood, *from now on*, must be cut 49 inches." And, at the hearing, Major Hart, for complainants, said (vol. 335, p. 6012): "We are looking for sound, straight timber of that particular quality." These specifications and statement are not entirely consistent with the general statements (quoted above), upon which the application is based, and it is further shewn that the complainants are reshipping some of this pulpwood without any process of manufacture.

The business of complainants is manufacturing and the basic material from which the manufactured product is made is the log (cordwood) of specified and particular dimension and character, not refuse, and I am of opinion that the present published rates on logs for manufacturing purposes are properly applicable to the material in question.

The report of the Traffic Department of the Board, dated May 20 last, deals in detail with the whole situation and, I think, satisfactorily disposes of it. I would adopt that report and incorporate it as part of the judgment of the Board, and concur in its conclusions.

The application must be dismissed.

BOARD OF RAILWAY COMMISSIONERS FOR CANADA—TRAFFIC DEPARTMENT,
OTTAWA, ONT., May 20, 1921.

T.D. 13935
File No. 27685.14

Report of Geo. A. Brown, Chief Clerk, Traffic Department.

Applicants have established mills at various points for the manufacture of lath direct from the log instead of from slabs and have been paying on their inward material the log mileage rates applicable for manufacturing purposes. They claim that rates should be no higher than applied on cordwood shipped to chemical plants or on pulpwood to mills for manufacturing and reshipment.

Since the application was made there has been a change in the mileage scales by reason of the reduction on January 1, 1921, under the Board's General Order No. 308 and to show the relation between the different scales I give below the present published rates up to 200 miles, which is the limit of the territory from which applicants receive their raw material, also the mileage rates applicable on lumber, lath, shingles and other products of saw-mills:—

	Rates in cents			
	A Per 100 lbs.	B Per 100 lbs.	C Per Cord	D Per 100 lbs.
Not over 5 miles	5½	4	135	7
Over 5 not over 10 miles	5½	5½	135	7½
" 10 " 20 "	6	5½	149	9
" 20 " 30 "	7½	6	162	10
" 30 " 40 "	8	6	176	11
" 40 " 50 "	8	7	189	12
" 50 " 60 "	9	7½	203	13½
" 60 " 70 "	9	7½	210	14
" 70 " 80 "	11	9	216	16
" 80 " 90 "	11	9	223	17
" 90 " 100 "	11	9½	230	17½
" 100 " 125 "	11½	10	243	19
" 125 " 150 "	12	11	257	19½
" 150 " 175 "	14	12	270	19½
" 175 " 200 "	16	13½	284	21

A Logs for manufacturing.
B Pulpwood for manufacturing.
C Cordwood for chemical plants.
D Lumber, Lath, Pulpwood, etc.
Tariff C.P. CRC. E-3818.
Tariff G.T. CRC. E-4397.

The rates applied on wood for chemical plants are on a very low basis, lower than on cordwood for fuel purposes, although the latter commodity was increased but ten per cent under the last General Increase Judgment.

They were established many years ago by railways to encourage plants producing commodities which pay comparatively high freight rates on the outward products, charcoal, acetate of lime and wood alcohol, while the lath to be shipped by Applicants is carried at mileage or special commodity rates much lower than 10th class rates: It is true that there is some analogy between the commodities used by the chemical plants and that used by Applicants since both are wood but it will be noticed that in the copy of the poster submitted by Applicants it is required that the wood to be shipped shall be sound, straight timber. It would, therefore, appear that the material required must be selected while I assume the chemical plants take hard wood cordwood without such restriction.

The pine, sprice, balsam and poplar may be used as pulpwood and the balance must be culled. The statement that applicants are using a material that could not otherwise be disposed of by settlers does not appear to be quite correct.

The expense bills submitted by Mr. Ranson show that Applicants are culling this pulpwood and reshipping without further process of manufacture.

The mileage rates on pulpwood for manufacture and reshipment apply only to certain named paper mills and the products, pulp and paper, are charged at rates much higher than applicable to lath.

These mileage rates on raw material are all more or less predicated on the rates to be obtained on the outward product.

The mills who manufacture from slabs pay the log mileage rate on their inward material and Applicants do not, therefore, appear to be at a disadvantage in competition with such mills by being required to pay the same inward rate.

According to the poster submitted applicants require pine, spruce, balsam, hemlock, tamarac, poplar, cedar, and ash to be cut 49 inches long, and 4 inches and up in diameter at the small end. The material, therefore, consists of short, small logs, not cordwood.

Much of this material could be cut into box shooks, as well as into lath, and possibly the cedar could be used for shingle bolts, all of which would be shipped out at rates lower than applicable to products of paper mills or wood chemical plants.

In my opinion, the material received by complainants has been properly classified by the railways as logs for manufacturing, and I can see no reason why rates lower than the published scale should be established.

Respectfully submitted.

GEO. A. BROWN,
Chief Clerk, Traffic Department.

PASSENGER FARES ON THE INTERNATIONAL BRIDGE BETWEEN BRIDGEBURG AND BLACK ROCK

Judgment, Commissioner Boyce, November 10, 1921.

Complaint as to passenger fares on the International bridge between Bridgeburg and Black Rock on what is called the "Dummy Service" was referred to and brought to the attention of the Board by Mr. J. F. Gross, counsel for the town of Bridgeburg, at the hearnig in Toronto, March 5, 1920, of the complaints against the increased commutation fares proposed to be charged by railway companies generally. The case for the complainants was there put before the Board, in a general way, in support of the complaint that the Grand Trunk Railway operating over the International bridge was charging more for fares than was justified by the service given by the company thereof. The reply of the Grand Trunk Railway was subsequently filed and a statement showing the earnings and operation expenses by months, during the years 1918 and 1919 was filed and served upon the complainants. The statement showed a loss in operation upon what is called the "Dummy Service", in 1918 of $4,837.71 and in 1919 of $2,692.95. During the whole of the years 1918-19 the statement showed a straight monthly loss from operation, with the exception of one month (October, 1919) which showed a profit of $21.51. The net loss for these two years shown by this statement therefore. amounted at that time, to $7,530.66.

The judgment in the Commutation Rates Case, dated April 1, 1920, fixed the minimum charge for this class of traffic at 7½ cents per ride, or 10 trip tickets, good for three months, on the basis of 2.5 cents a mile of travel, subject to the minimum of 7½ cents per ride, and following the Order issued thereupon the Grand Trunk Railway Company published a tariff of 75 cents for 10-trip tickets between Bridgeburg and Black Rock. The railway company thereafter increased the charge for such

10-trip tickets to 90 cents, claiming that the Order of the Interstate Commerce Commission in *ex parte* No. 74 allowed an increase of 20 per cent in commutation fares within the United States, and that under General Order No. 303 of this Board the conditions within Canada were allowed to apply similar increases in international rates. This latter rate of 90 cents was disallowed by this Board, upon the ground that Order No. 29512, (the order in the commutation rates case) governed this rate and the minimum of 7½ cents applied, and the railway then adopted, effective May 18, 1920, the rate fixed by the Commutation Rates Order, above quoted, at 7.5 cents per ride. Prior to June 10, 1918, the rate per ride for these tickets was 5 cents, and on June 10, it was advanced to 5.5 cents per ride.

By application, dated November 9, 1920, the town of Bridgeburg applied to the Board for an order, under sections 335 and 359 of the Railway Act, directing the railway and the International Bridge Company to reduce the rates on the "Dummy Service" across the International bridge between Bridgeburg and Black Rock, below the rate fixed as above by the Commutation Rates Order (No. 29592, April 1, 1920), the municipality contending, inter alia, that the service was not a commutation service in the sense ordinarily used, and that the Commutation Rates Order therefore, was not applicable to such service. The applicants also contended that the statute incorporating the Bridge Company (20 Vict., 1857, Cap. 227, section 14.) provided that the International bridge should be as well for the passage of persons on foot, in carriages, and otherwise, as for the passage of railway trains, and that the bridge was constructed, and had always been used, solely for the passage of railway trains, and that the "Dummy Service" had been instituted in lieu of the provision for the passage of persons on foot and in carriage as they were permitted to do by the statute in question, and that therefore the tariff was a bridge tariff rather than a commutation fare.

Upon this basis of complaint the case was heard before the Board, and all questions relating to the history of the bridge, the character, and cost of the service, were fully discussed by counsel for the municipality and the railway. The municipality, by its counsel, contended that the Statute incorporating the Bridge Company, referred to above, constituted a contract between the Bridge Company and the public permitting passengers to cross the bridge, and that there was a continuous breach of this arrangement in the operation by the company, and also that the cost of service over the bridge did not justify the rates charged by the railway company.

In regard to the first objection, it is pointed out that the clause in question (No. 14 of the original Act) has been the occasion of a great deal of litigation, running as far back as the old case of Attorney General of Ontario v. International Bridge Company, 27 Grant Chancery Reports, p. 37, wherein was contended by the Attorney General of the province that the bridge having been constructed, and being used for railway purposes only, and not providing foot path for passengers, the whole structure should be declared a nuisance, and Vice-Chancellor Sprague in an exhaustive judgment, while not holding that the bridge should be declared a nuisance did give effect to the second part of his contention and ordered the railway company to provide a foot path to conform to the requirements of section 14 of the original Act of Incorporation. This decision, however, on appeal was reversed. Vice Attorney General v. International Bridge Company, 6 O.A.R., p. 537, it being there held that the abandonment of that portion of the work of the bridge relating to foot passengers and carriages was not a public nuisance; and the Act of Incorporation was not a contract with the public, but merely gave conditional powers creating correlative duties, and was permissive; and that specific performance thereof would not be enforced. It was further held, upon appeal, that the work being one within the jurisdiction of the Parliament of Canada, which with the knowledge of the state of the bridge, had allowed debentures to be issued upon it, and that therefore the Attorney General of Ontario was not a proper party to file the information asking that it be declared a nuisance, or to enforce the legislative conditions as to its use, and had no locus standing in the case.

Although doubtless the clause referred to embodied in the original Act of Incorporation had been fruitful of a great deal of public controversy and complaint and some litigation, it is not apparent that any other judicial interpretation of the controversial clause 14 has been made, other than that by the Ontario Court of Appeal cited, that is of an interpretative and final character, so as to be binding upon this Board as a matter of law, and the traffic over the bridge has been conducted by this "Dummy Service" instituted by the Railway Company to provide passenger traffic and being a traffic within the jurisdiction of the Board, my view is that, there being no decision of law to the contrary binding upon this Board that the Board must deal with the traffic as it is and confine its examination of the complaint to the question of the reasonableness of the rates charged for that traffic, and I am of opinion that it is not within the scope of this Board's authority and jurisdiction, under the Railway Act of Canada, as Administrator of the provisions thereof relating to traffic, to now interpret section 14 of the original Act of Incorporation of this Bridge Company, or of any other Act or Section thereof relating thereto, in the manner contended for.

The bridge is .86 of a mile in length—i.e. for the purposes of tariff, a mile—and the fare charged is the minimum fare fixed by the Order of the Board, No. 29512, of April 1, 1920. Mr. Gross, for the municipality, was not able to show from figures that the costs were excessive. It was but reasonable that he found himself compelled to confine himself to general statements. His submissions involved the argument that as the bridge is .86 of a mile in length and the "Dummy train" makes 40 single trips daily, it therefore travels 34.40 miles a day for 365 days in a year, making a total of 12,775 per annum, at a cost for the year 1919 of $17,228.08, or $1.35 per mile, or nearly $1.66 for each single trip. He contended that that result shows from the amount of repairs that the outfit is antiquated, from the amount of coal consumed that it is uneconomical, and from the amount of wages paid that it is not capable of performing the service economically, and that therefore, the public is not getting the service it is entitled to. Mr. Chisholm pointed out that the original statute fixed the maximum of tolls to be charged upon the bridge at 25 cents for each foot passenger, 50 cents for each horse and rider, 60 cents for each horse and single carriage, and an addition of 18¾ cents for each passenger actually travelling in said carriage, etc. He points out that the charge of 25 cents has been reduced over a period of years to 9 cents, and later by the Order of the Board referred to, to 7½ cents. "Dummy Service" is operated by an Engineer, Fireman, Conductor and two crews. The operation is in conformity with the general operating rules approved by this Board. The operation is by car 54 to 60 feet long, with an engine and boiler in one end of the car—i.e. one vehicle with an engine operated by steam, in part of the car. The figures originally given by Mr. Chisholm, after the partial hearing that this case received at Toronto, in connection with the Commutation Rates Case, were furnished in detail for the years 1918 and 1919 by items of wages, coal, supplies, handling, repairs, and rental, applicable to motive power and car cleaning and car rental. The wages, coal supplies, and handling, are based upon actual disbursement. The repairs are figured upon a mileage basis. The rental of $220.64 per month of $2,647.68 per annum is based upon 9 per cent of the original cost of the motor cars, being 5 per cent interest, 3 per cent depreciation, and 1 per cent for insurance, etc.

Where locomotives were used during the time that the "Dummy Service" was undergoing repairs, dates of which are furnished, the same is charged at $4.90 per day. The items for car cleaning, amounting in 1918 to $652.90 and 1919, to $968.12, are the actual amounts disbursed, and the car rental of $36.04 per month during these years is charged at the number of days of car service, at $5 per day. These figures are not successfully challenged by Mr. Gross, although objected to as excessive.

I do not see any ground upon which the Board, in the circumstances, can take exception to them, although a reduction in the cost of operation is very much to be wished, and might possibly, with little difficulty, be worked out, but these payments

represent the respective net operating deficits above referred to for the years 1918 and 1919, and under the circumstances, I am compelled to come to the conclusion that there is no ground upon which the Board can hold that for anything shown in the cost of operation, the minimum fare fixed by the Board's order, above referred to, is an excessive rate for this service, operated as it is at present, and I would so hold.

It was contended by Mr. Gross that a gasolene car might be instituted for this service by the railway, which would have the effect of greatly reducing cost of operation, with the result that the public might get the benefit by reduced fares. The operation at present, as I have above stated, is governed by the general operating rules applicable to all railways. There is no provision at present either in the Railway Act or by regulation of this Board for the operation of a steam railway under the jurisdiction of this Board by gasolene cars; i.e. a prospective innovation and reformation applicable to short distance lines, which perhaps is much to be desired and may bring about much needed reform by facilitating operations on short distance lines, where cost of ordinary operation would be prohibitive. Such a reform would involve changes in operating rules and other serious considerations involving the necessary and vital provision for public safety, and at present the Board has not gone to the extent of making provision for such a service. Perhaps in the future the railways may be able to satisfy the Board that such operation is possible with safety and economy, under special restrictive conditions.

The complaint must be dismissed.

Re PROPOSED REDUCTIONS IN FREIGHT RATES AND SLEEPING, PULLMAN, AND PARLOR CAR FARES

Judgment, Chief Commissioner Carvell, September 13, 1921, concurred in by the Deputy Chief Commissioner.

Under section 325 of the Railway Act, 1919, subsection (1):—

> "The Board may disallow any tariff or any portion thereof which it considers to be unjust or unreasonable, or contrary to any of the provisions of this Act, and may require the company, within a prescribed time, to substitute a tariff satisfactory to the Board in lieu thereof, or may prescribe other tolls in lieu of the tolls so disallowed."

About a month ago, the Board, of its own motion, instituted an investigation to decide whether or not a change should be made in the freight, pullman and sleeping car rates as now existing in Canada, and requested the railway companies of Canada under its jurisdiction to meet the Board at Ottawa on Tuesday, the 30th day of August last, for the purpose of discussing the whole situation. The proceedings were informal, in the nature of a conference, because we felt that, if a reduction in rates was justified, then no greater delay should be allowed than was absolutely necessary and also that we would probably have a better opportunity of discussing the whole situation than we would at a public hearing.

At the conference, the Canadian Pacific, Grand Trunk, Canadian National, New York Central, Michigan Central, and Temiscouata Railways were specially represented by their officials and, in most cases, solicitors, and all other railways under our jurisdiction were represented by the Railway Association of Canada. Continuous conferences have taken place almost daily down to the present time. Statements were furnished by some of the railways, principally by the Canadian Pacific. I think I am safe in saying that they all deprecated any serious reduction in rates, but contended that, if a reduction were to be made, it should be on special commodities which, in their judgment, would be of particular benefit in expediting commercial transactions in Canada rather than a percentage decrease covering traffic of all kinds.

They all agreed, however, that there should be a reduction in sleeping, pullman, and parlor car rates, practically admitting that the present rates were so high as to prevent a certain amount of traffic. There were some suggestions that the reduction in the rates governing this particular class of traffic should be graduated according to distance, giving a greater percentage reduction on long distance traffic than on the shorter, and with this view on general principals I am inclined to be in accord, but no details have been furnished us up to the present time.

By the Rate Judgment of August, 1920, a flat increase of 40 per cent in Eastern Canada and 35 per cent in Western Canada was given on all freight traffic, with a few exceptions more particularly referred to hereafter, up to the end of December, 1920, and thereafter of 35 per cent in Eastern Canada and 30 per cent in the west and a 50 per cent increase in sleeping car, pullman, and parlor car fares. It was strongly contended by the representatives of the Grand Trunk and Canadian National roads that their finances were such that a rate reduction of any kind excepting that in sleeping car rates, etc., would be a gross injustice to them because, with the Canadian National in particular, their operating expenses far exceed their revenues and a reduction in rates would only aggravate the difficulties under which they were labouring.

In the case of the Canadian Pacific Railway Company, they contended that any reduction in rates would probably endanger their chances of earning dividends for the current year. The decision of this Board in the August Case of 1920 was referred to, in which it was contended that on account of the strong financial position which the Canadian Pacific Railway has occupied in the business life of Canada for many years past, any rate arrangement should be such as to leave them in a position to earn their dividend of 7 per cent. I agreed with that proposition then and reiterate it here, and, therefore, in arriving at a conclusion at the present time, I am doing so entirely on an examination of the traffic and financial requirements of the Canadian Pacific Railway Company.

That company filed with us a very comprehensive analysis of all kinds of traffic for the first seven months of the present year, January to July inclusive, and an estimate of receipts and expenditures for the remaining five months. During the discussions, they were able to produce the gross receipts for the month of August, but the amounts credited to each particular kind of traffic had not been segregated, and therefore we have not the benefit of this information so far as that month is concerned, neither have we any statement of their expenditures.

In the statement filed, they estimated a small deficit. In doing so, they pointed out many important reductions which have been made during the past eight months, and particularly within the last two or three months, which are very considerable and will, to that extent, affect their net at the end of the financial year. Perhaps the two most important reductions are grain from Fort William and lake ports, both to the seaboard and for domestic consumption in Eastern Canada, and live stock. In the case of grain for export, the reduction amounts to 3 cents per 100 pounds from Fort William and 5 cents per 100 pounds from bay ports. They propose to increase the 3 cent reduction from Fort William by 7½ cents, or a total of 10½ cents per 100 pounds, and to reduce the rate on grain for domestic consumption from Fort William by 4½ cents per 100 pounds and the rate on grain between stations in Eastern Canada by 2½ cents per 100 pounds. This, they estimate, will amount to a reduction in revenue of $1,169,000. In the case of livestock, the reduction amounts to about 25 per cent of the existing rates. The last reduction was made with the entire concurrence of the Board in the month of July last owing to the serious condition in which that important industry found itself by reason of existing economic conditions, and will, according to the company's estimate, amount to $220,000 from the date of reduction.

They propose a reduction in the rate on hay of 25 per cent, which will amount to $143,000, this due to the shortage in the hay crop in the provinces of Ontario

and Quebec and, to some extent, in the Maritime Provinces. They have made reductions in the rate on lumber from the Pacific coast to eastern points amounting to $95,982. They have made reductions in the rates on smelter products to United States points, effective September 22 instant, and to Canadian points, effective August 18 last, which they estimate will produce a reduction in revenue of $46,985. They propose a reduction in the rate on dressed meats and packing house products from western packing house plants to eastern destinations, but do not state either the percentage of reduction or the estimated loss of revenue therefrom. They have made reductions in wool and hides from western to eastern points which they estimate will amount to about $9,000. In addition to these specific cases, a number of substantial reductions have been made between various points and on various commodities, but, as we have not been furnished with details of quantities, I am unable to give any estimate of what the result will be in their revenues. By another computation, they estimate that, with the reductions already in effect and those contemplated, the total reduction in freigh rates for the remainder of the year will be $2,800,000. These are all very important and are all taken into consideration in arriving at their estimate of their net for the whole year, which, as I said before, they estimate will produce a slight deficit after providing for fixed charges, pensions, Income Tax, and dividends.

The rates granted the railway companies of Canada a year ago were very severe, and I am not at all surprised that they were a great shock to the people generally, who were compelled to patronize the railways and who, of course, would have to pay the extra rates, and yet, after a year's experience and a very close study of the traffic returns from month to month, I am satisfied they were entirely justified and nothing less would have complied with the requirements of the law which says that we should give to the transportation companies "just and reasonable rates". In fact, the final results to the Canadian Pacific Railway Company for the last year, even under these very high rates, only gave them a surplus of $450,000 after paying their dividends.

At that time, the Chicago Wage Award had gone into effect in the United States, and the executives of the different railways in Canada felt that they were compelled to give the same increases here as had been granted in that country, which, in the case of the Canadian Pacific Railway Company, were estimated at an increase of about $21,000,000 annually, something over $7,000,000 being required to meet these wages back to the 1st of May, 1920, because the increased wages went into effect on that date in the United States.

As I felt that in order to avert a catastrophe to the railway companies of Canada a year ago we were compelled to give the increases above referred to, when the same Board in the United States some months ago ordered a reduction in the wages of the employees of the United States railways which amounted to about 12½ per cent, I naturally felt that the Canadian railways should at least make a like reduction, and we are informed they have already put these reductions into effect, dating, in the case of the Canadian Pacific Railway Company, from the 16th day of July last, and all the roads now paying their men on this reduced basis.

Also, as it is admitted by the railways that their materials are costing them at least 25 per cent less than a year ago, I had a very strong impression that the public was entitled to a substantial reduction in freight rates. It could not be exactly the same amount, because our passenger rates, which were increased 20 per cent up to the end of December, 1920, then 10 per cent until the 1st of July, are now back to where they were prior to the Rate Judgment, and there were no increases on a number of commodities hereinafter referred to. My object, therefore, in inviting the railway companies to a conference was to ascertain what would be a reasonable reduction in freight, sleeping, and parlor car rates in order to correspond with the reduction in operating expenses.

I was also very strongly fortified in this opinion by an examination of the Canadian Pacific Railway Company's traffic returns for the first seven months of this year, in which they show net earnings practically $2,000,000 greater than for the corresponding seven months of 1920. An examination also shows that, during the months of January and February, only a very slight improvement took place in their operations, but, beginning with the month of March, the Canadian Pacific Railway Company have applied their well-known efficient business methods to the operation of their road. Their net, month by month, has shown a satisfactory increase. In March, it amounted to $2,450,000, in April to $2,646,000, in May to $3,293,000, in June to $3,104,000, and in July to $2,054,000, the reduction during the month of July being accounted for by a large increase in maintenance and equipment charges in getting ready for the fall business. The August net is not available, but we know that the gross is $16,647,000, or an increase over the July gross of about $900,000, and I think it fair to assume that their net will show a very satisfactory increase, the result of these economies as above stated being to show a net of nearly $2,000,000 over the same period for 1920. I am satisfied, not only from the statements of the company's officials but also from a careful analysis of their monthly statements, that this great saving has been accomplished without in any way reducing the high standard of their right of way, equipment, and system in general. It is certainly, considering the great decrease in general business, a wonderful tribute to the business sagacity and ability of this organization.

The problem before us is what will be the results of the last four months of the company's fiscal year. Of course, it can only be an estimate, but the railway company should be in a position to estimate results more accurately than I could do, and I naturally in arriving at a conclusion felt that I must scrutinize very closely these estimates and see whether or not in my opinion they are justifiable. On the whole, I think they are fairly accurate, but I am compelled to disagree with them on a few very important items.

In the first place, they state that, during the last four months of 1920, their revenue from the transportation of grain and grain products from the point of origin to the head of the lakes was $20,762,000, and they estimate that, during the like period of this year, it will fall to $13,387,000, a drop of $7,374,000, or a decrease of 34 per cent. They point out in justification of this estimate that, on account of crop conditions in Western Canada, the northern portions of the country which are served more largely by the Canadian National Railway lines than by the Canadian Pacific will produce the greater proportion of the grain, and naturally the Canadian National Railway will transport a greater proportion than last year. They also contend that the average haul will be about 20 per cent less than last year in mileage, and, of course, the rate will be 5 per cent less than in 1920, but, with the Canadian Pacific Railway Company's well-known business ability, with their efficient operating staffs, excellent roadbeds, and adequate equipment, I cannot agree that there will be a reduction of anything like 34 per cent in their revenue, especially when they admit that the grain crop will be 4 per cent greater than it was last year. How much less is their estimate than the actual result will be, of course, I am unable to state, because, after all, it is only an estimate, but I will be very much surprised if their revenue from this commodity is not $2,000,000 greater than their estimate.

Taking the system as a whole, they arrive at their estimate of gross expenses for the last five months of 1921 by applying the percentage of total expenses to total revenue as found in 1920 to a like period in 1921, and, in the statement which they furnish us, they took the total receipts for the last five months of 1920 and the total expenses for the same period and found that the expenditures amounted to 84 per cent of the receipts, and, after estimating the total receipts for the last five months of 1921, they estimated their total expenses on the same basis to be $70,830,000. From this they deducted certain amounts for the decrease in the cost of labour and materials, amounting to $7,302,000, and added $2,800,000, provision for rails and fastenings and the necessary labour in laying same, making the net estimated

expenses for that period $66,328,000, and, by adding this to the actual expenditures for the first seven months of 1921, arrived at their estimated expenditures for the full year, which, when placed against the estimated revenues, showed, as before stated, a small deficit.

Their attention was called to the fact that, in the months of October, November, and December of 1920, they had included about $3,400,000 for the retroactive wages of May and June, the result being that a new computation was made based upon an operating ratio of 81·99, or practically 82 per cent, which reduced their estimated deficit by about $1,500,000, thus leaving the deficit around $1,100,000.

If they arrived at the estimated expenditures for the last five months of 1921 upon the same operating ratio as that for 1920, it is perfectly clear that they included in that estimate the same percentage of requirements for rails, fastenings, and the laying of the same as was provided for 1920, and I find from an examination of their traffic returns that, during these five months, they actually expended for these items $5,945,000. I naturally inquired why it was necessary to include an estimated expenditure for these same items during the last five months of this year in addition to what they had already provided for by $2,800,000. This was called to their attention, and the answer was that it was required to bring up the expenditure for this year to what would be required to keep their track in proper condition as these items had been very seriously reduced in the first seven months of this year. I find, however, from an examination of their statements that, during the first seven months of 1920, they expended for these items $5,435,000 and, for the same period of 1921, $4,984,000, or a reduction of less than $450,000. Considering the general reduction in business, in my opinion, the amount expended during the first seven months of this year is quite equal to, if not in excess of, the amount expended for like purposes in the first seven months of 1920, and, therefore, I conclude that they are not justified in adding the item of $2,800,000 to their estimated expenditures for the last five months of this year. Applying this item alone to their estimated deficit of $1,100,000, I find they would have a surplus of $1,673,000.

Then again, I find they estimate for the present year that they will require the sum of $2,381,498 for income tax, but $2,300,000 was included in their expenditures for the months of November and December, 1920, for income tax, and, as they have estimated for 1921 the same ratio of expenditures to revenues as actually obtained in 1920, they have already included in their estimated expenses for this year 82 per cent of $2,300,000, or $1,886,000, and I am unable to see that they are justified in doing this a second time as they have done. Therefore, instead of adding $2,381,498, they would have been entitled to add only $495,498, which would bring their surplus to over $3,500,000.

I cannot, however, agree that the expenditures for the last five months of this year will be in the same ratio to earnings as they were in 1920. I find from their returns that, during the months of January and February of 1921, their operating ratio was just about the same as it was in 1920, but, from that time down to the end of July last, being the last month for which we have accurate returns, a very, very substantial improvement has taken place in their operating ratios, as will be seen by the following table:—

OPERATING RATIOS

	1920	1921	Decrease
	per cent.	per cent.	per cent.
January	94·63	91·13	0·50
February	93·56	91·93	1·53
March	86·52	81·95	4·57
April	84·29	79·18	5·11
May	79·35	74·18	5·17
June	84·47	77·90	6·47
July	91·43	87·12	4·31

This shows an average reduction for the five months, March to July inclusive, of over 5 per cent, due entirely to more economical management, for which the company is entitled to the very greatest credit imaginable. I cannot bring myself to believe that for the remainder of the year they will discontinue this excellent business management and bring their operating ratio back on a parity with what it was for the last five months of 1920. In other words, there must be a continuation of this reduction in operating ratio which, at the end of the year, should show an improvement at least as great as that for the first seven months, which amounted to $2,000,000, because, while the period is shorter, the traffic is very much greater. If this estimate is anywhere nearly correct, it would give the company a surplus of well over $4,000,000.

I am not satisfied with their estimate of the reduction in revenue under the item of all other kinds of traffic, which includes everything excepting grain and grain products, hay, lumber, anthracite coal, bituminous coal, ores, live stock, and dressed meats. They estimate a reduction of about 21 per cent, because that was the average reduction on this traffic for the first seven months of this year, but I find that, for the month of July, this reduction only amounted to 13 per cent, and, therefore, while I cannot say to what extent this estimated revenue is smaller than it should be, yet I see no reason why the full 21 per cent should be deducted and think these items will yield more revenue than they anticipate, but, as the question is largely problematical, I make no venture as to the actual amount.

There is one other small item in which their estimates are clearly wrong, although I can quite understand how it happened, that is, the rates for the carrying of mail. A new agreement was made with the Government, effective the 1st day of March, 1921, by which their receipts from this source are practically doubled, and, in arriving at the estimate for the last five months, they took the average for the first seven and applied it to the last five. I find, however, that, if we take the average March to July inclusive and apply it to the last five months of this year, their revenues will be $200,000 more than their estimate.

I, therefore, think that, instead of showing a deficit of $1,100,000, they will have a substantial surplus after meeting all dividend requirements and, of course, fixed charges, pensions, and income tax. If I am correct in this estimate, then there should be a reduction in rates, because the public is entitled to every cent of reduction in rates which is possible under existing circumstances. A year ago, this Board gave the railway companies a percentage increase in rates on all traffic excepting a few items hereinafter referred to such as sand, gravel, crushed stone, etc., and, as they were given, at least by me, under the firm conviction of absolute necessity, with the hope that some time in the near future rates might be brought back to the same basis as existed in the month of August, 1920. I can never be privy to allowing these rates to remain on their present basis subject to a few special reductions which the railway companies would like to make for any reason which to them may seem proper. It is not my conception of the duties of the Board of Railway Commissioners under the Railway Act. As they have already made very considerable reductions, which I have particularly referred to, I think they could stand a ten per cent reduction on the remainder of their freight traffic and still pay the dividends.

I, therefore, think an order should issue instructing all steam railway companies in Canada under the jurisdiction of this Board to file tariffs, effective the 21st day of September instant, reducing the fares on their sleeping, Pullman, and parlour cars by 25 per cent—not 25 per cent from existing rates, but, going back to 1920, when they were given an increase of 50 per cent, it should now be figured upon an increase as of that date of 25 per cent. This, I am sure, will produce more money at the end of the year to the railway companies than they could possibly earn under present rates, because, as before stated, I am satisfied those rates are so high that they are preventing much traffic which otherwise they would obtain. That all freight rates

other than those upon which decreases have already been made, and also those hereinafter especially provided for, should be decreased by ten per cent from the increases given in 1920, which would leave the increase in Western Canada at 20 per cent and in Eastern Canada at 25 per cent. In cases where the reductions already granted have not amounted to 10 per cent, they should be reduced to that point, and, of course, where they exceed 10 per cent, they will remain as at present. There will be no reductions on crushed stone, sand, and gravel, cordwood, slabs, edgings, and saw-mill refuse when used exclusively for fuel, and milk, as no increases were given on these commodities by the 1920 Order. There should be no reduction on coal because the increases on this commodity in no case exceeded 20 cents per ton and were graduated down to 15 cents and 10 cents per ton according to distance. There should be no decrease in the minimum class rate scale as established by Order in Council P.C. 1863 and now in force by an order of this Board or in the minimum charge per shipment, as these were not increased a year ago. There will be no decrease in commutation or passenger fares, because passenger fares are now back to where they were in 1920 and the commutation fares have been dealt with by a special order of this Board. The decrease hereby ordered shall only be for line hauls and shall not affect local switching rates, tolls for interswitching, or such incidental services as milling-in-transit, diversions, reconsignments, stop-overs, demurrage, weighing, and the like, as they were not dealt with by the 1920 order. In arriving at these decreases, existing spreads between the rates from the various mills in British Columbia shall be maintained, the same as provided for in the order of 1920, and, of course, the export rates will not be affected by this Order, as they were the subject of a special order of the Board. In working out the rates under this judgment, fractions will be disposed of as set out in Order in Council, P.C. 1863.

Judgment, Assistant Chief Commissioner McLean, September 13, 1921, concurred in by Commissioners Boyce and Rutherford.

In the present case, as in the Board's judgment in the Rate Application of 1920, the position of the Canadian Pacific Railway Company is taken as the test. The Chief Commissioner, in his decision in the 1920 application, expressed the opinion that the rates the judgment sanctioned would "very nearly give the Canadian Pacific Railway an even balance sheet at the end of the present year, and for the year 1921, according to my estimate, should give them a reasonable surplus. . . " The Chief Commissioner's position in the present case is expressly the same.

Under the reduction in wages which the Canadian Pacific provided for, effective July 16, 1921, it is estimated this represents from July 16 to December 31 a reduction of $4,787,000, while for the period August to December it is $4,300,000. The amount so involved is in either case in excess of the surplus estimated in the Chief Commissioner's judgment in the present matter.

While provision was made by the Canadian Pacific for a reduction in wages, with a corresponding reduction in the pay-cheques, this has not up to date so gone into the funds of the company as to be available for reduction of operating costs. Whether it will remain with the company or whether it will finally be paid to the employees will be involved in proceedings before a special tribunal.

Parliament has provided by legislation for rate regulative powers to be exercised by a regulative tribunal operating under the Railway Act. It has also provided by distinct and separate legislation for investigatory powers in respect of labour disputes, and for the appointment of special tribunals in connection therewith.

On August 4, 1921, the Engineers, Firemen, Conductors, Trainmen and Telegraphers made application to the Department of Labour for the appointment, under the Industrial Disputes Investigation Act of 1907, of a Board of Conciliation and

Investigation. The Minister of Labour acceded to this application. The Board of Conciliation and Investigation is now in process of constitution.

The question of wage reduction is the pivotal one in the present consideration of reduction in operating costs, with its consequent bearing on rates.

What is herein involved is a rate reduction based essentially on a wage reduction.

Pending the decision of the special tribunal appointed to investigate as to the wage question involved, I do not feel that I am justified in expressing an opinion on the propriety of a rate reduction based essentially on a wage reduction whose justifiability is at present under investigation.

Judgment, Assistant Chief Commissioner McLean, November 23, 1921.

Prior to the issuance of my memorandum of September 13, 1921, I had expressed, in the Board's preliminary discussions, the opinion that if, on the facts, a rate decrease was found justifiable, it should be a percentage decrease. The increase having been a percentage one, there appeared to be merit in the contention that the decrease should also be a percenage one.

My memorandum, above referred to, set out the opinion that the determination of the justifiability of a decrease in rates pivoted on the question of wage reductions —a matter then under consideration before a special tribunal. I was of opinion that until the outcome of this wage investigation was made apparent I was not justified in expressing an opinion as to a rate reduction based on a wage reduction when the latter was still unsettled. That is to say, that until information was available as to the outcome of the pending hearing regarding wage reductions, I was not in a position to express an opinion as to whether there should be a rate reduction or as to what the extent of a rate reduction might properly be.

Owing to the nature and complexity of the agreement between the Canadian Pacific and its employees, arrived at on October 8, 1921, on the eve of the Board's western sittings, in which I participated, I was unable, before leaving for the West, to obtain any information to enable me to measure the amount and effect of what was covered by the agreement in question.

Notwithstanding my endeavours, I was unable, until my return from the West, to obtain the necessary information as to the effect and extent of the wage reduction. This information having been obtained, the difficulty in the way of arriving at a conclusion was removed; and I was of opinion that a percentage decrease in rates was justifiable.

I am, therefore, in agreement with the Board's decision as communicated in summary form to the public and embodied in a general order making the Board's decision operative.

Judgment, Commissioners Boyce and Rutherford, November 23, 1921.

The memorandum of the Assistant Chief Commissioner, relative to the rate reductions now ordered, sets forth very clearly, save in one particular, the position of the two other members of the Board, who did not see their way to concur in the judgment of the Chief Commissioner, as issued on September 13, 1921.

During the conferences preceding the issue of the judgment in question, we were throughout strongly in favour of the policy of requiring from the railway companies substantial reductions in the freight rates on basic commodities, such as grain, lumber, pulpwood, coal, ores and other specified raw materials, as being of vastly greater importance than a percentage reduction on all classes of freight, the benefits derived from which will, in many cases, be absorbed before they reach the general public.

The principle of the policy advocated by us was illustrated by the substantial reduction in the rates on live stock granted in August last, as also by the special

treatment given to the rates on coal, milk and other articles in the judgment of the Chief Commissioner granting the rate increases in September, 1920. It is further illustrated by the substantial rate reductions on basic commodities which will shortly come into effect in the United States, as a result of the recent orders of the Interstate Commerce Commission.

As however, we were in a minority we were prepared to agree in the straight percentage reduction and would have done so, but for the reasons set forth in the Judgment of the Assistant Chief Commissioner of September 13, 1921 (in which we concurred), and in his memorandum of even date on the present situation. We are therefore, in agreement with the Board's decision, as communicated in summary form to the public and embodied in a general order, making the Board's decision operative.

APPLICATION CANADIAN FISHERIES ASSOCIATION, PRINCE RUPERT BRANCH, FOR REDUCTION IN SWITCHING CHARGES

Judgment, Assistant Chief Commissioner McLean, November 23, 1921, concurred in by The Chief Commissioner, Deputy Chief Commissioner, and Commissioners Boyce and Rutherford.

Under date of October 6, 1920, at a sittings in Prince Rupert before the Chief Commissioner and Deputy Chief Commissioner, complaint was made regarding the increase in switching charges at Prince Rupert. It was stated that prior to July, 1920, the switching charge had been $6 per car, and that in the tariffs operative subsequent to July the rate was $15.

The companies not having been notified, the matter was presented, so far as the applicant was concerned, in an outline way. Comparison was made with the rates stated to be in force in Vancouver, it being contended that the rates in force for switching services at Prince Rupert were much in excess of those operative at Vancouver.

The matter has been before the Board for consideration and has been referred to me. The matter has been developed by correspondence and investigation.

In the answer of the Canadian National Railway Company, which was not received until January 19, 1921, the following was set out:—

> "The rate of 3 cents per 100 pounds, minimum $15 per car, is correct and is carried in Supplement No. 13 to G.T.P. Tariff No. 43-A, C.R.C. No. 346, effective May 20, 1920. Prior to that date the switching rate was 2 cents per 100 pounds, minimum $6 per car, carried in Supplement No. 10 to G.T.P. Ry. Tariff No. 43-A, C.R.C. No. 346.
>
> "The new rate of 3 cents, minimum $15.00 per car, was established at the time of general revision in switching rates on Western lines and is in line with the changes assessed for similar service at other points on western railway lines. It is also felt that the new rate is reasonable, considering the nature of the service performed. I might add that the mileage rate which would originally be applied on ice in carloads for distances not exceeding 5 miles, effective as from January 1, 1921, is 5 cents per 100 pounds, subject to minimum weight of marked capacity of car, and it will be noted that the special switching rate is a substantial reduction from the regular rate.
>
> "With respect to switching charges stated in the complaint as being applicable at Vancouver, I have checked over the Canadian Pacific switching tariff at Vancouver (CP. CRC. W-2428) and cannot find any special switching rate on ice or fish as is quoted in the complaint."

It was represented at the hearing that telegraphic information from Vancouver was as follows:—

"Canadian Pacific advise switching charge tariff within four mile radius one cent per hundred, with varying minimum charge according to commodity, Minimum commodity charge carload, ice, $3; canned salmon, $5; frozen fish, $5. which applies from one siding to another. When switching from siding on to dock, minimum charge of 2 cents per hundred or $10."

An interim report of the Board's Chief Traffic Officer, dated January 21, 1921, set out the following:—

"The movement referred to in this complaint is local or intra-terminal switching, and not inter-switching; consequently the Board's General Inter-switching Order No. 252 and its 4-mile limit have no bearing.

"Prior to November 5, 1919, the rate in question was 2 cents per 100 pounds, minimum $6 per car, applicable to 'Carload freight handled between sidings within Yard limits.'

"On that date, at the same rate, the item was extended to cover movements between the freight sheds or wharves and the plants of the Canadian Fish and Cold Storage Co. and Prince Rupert Lumber Co.

"On the 20th May, 1920, and for the same services, the rate was increased to 3 cents per 100 pounds, minimum $15 per car, which is the rate complained against. It is not limited to ice or fish, but applies on any carload freight.

"The same rate is charged at Prince Rupert on lumber from the Prince Rupert Spruce Mills (Seal Cove) to Prince Rupert Dry Dock and Engineering Co's. plant, also to Albert and McCaffery's lumber yard near Government Wharf.

"On the other hand, the rate is only 2 cents with a minimum of $10 per car, on oil from the Imperial Oil Co's plant to the G.T.P. freight sheds or wharves, and on carloads of the empties in the reverse direction; also on any carload freight from the G.T.P. wharves to the Prince Rupert Dry Dock and Engineering Co's plant.

"Local switching rates depend very largely on the length of the movement. The distance involved in the movement the subject of the complaint is not stated, and I am unable to express any opinion of the others without knowing something of the character of each service.

"I am unable to verify the claim that the rates at Vancouver are much lower. A switching charge is mentioned of 2 cents per 100 pounds, minimum $10 per car, from C.P.R. sidings to the Vancouver docks. The actual reading of the item is as follows:—

"'Steamer freight (other than frozen meats), carloads, between Vancouver docks and C.P.R. sidings, 2 cents per 100 pounds, minimum $10 per car. Frozen meats, carloads, 3 cents per 100 pounds, minimum $15 per car. Both rates are exclusive of wharfage handling, and loading or unloading charges.'

"The C.P.R. tariff provides no rates specially for ice, canned salmon or frozen fish.

"It was also stated by Mr. Lee that according to the wire he had received from Vancouver, the C.P.R. switching charge within a 4-mile radius was 1 cent per 100 pounds, with varying minimum charges according to commodity. There must be something wrong here: either the interswitching rate was erroneously referred to, or the application of the item I now quote has been misunderstood. It reads as follows, and the G.T.P. has a similar rule at Prince Rupert:—

"'Where specific switching charges are not provided, a charge of 1 cent per 100 pounds, with minimum of $5 per car, will be made for *reswitching* cars from one point to another within yard limits. This charge only applies on carload freight originating at, or destined to, a point outside of the station yard limits where switching is performed. It does no apply on cars loaded within yard limits destined to another point located therein, nor on cars which have been once placed and partially loaded or unloaded by different firms.'

"It will be observed that this rule applies only to cars that have been or are to be line-hauled and after having been once spotted are reswitched to another loading or unloading point; also that it is specifically stated that it does not apply to cars loaded within yard limits for movement to another point within the same limits."

The different points involved in the switching movements concerned have been checked as to distance, with the following result:—

	Feet
From Prince Rupert Spruce Mills (Seal Cove) to Prince Rupert Dry Dock and Engineering Co. plant..	6,800
Prince Rupert Spruce Mills to Albert and McCaffery's lumber yard.	9,600
Prince Rupert Spruce Mills to Government wharves or freight shed..	12,100
Government wharves or freight shed to Canadian Fish and Cold Storage Co..	11,600
Government wharves or freight shed to Imperial Oil Company..	4,300
Government wharves or freight sheds to Prince Rupert Dry Dock and Engineering Co..	6,900

Owing to the reference made to the situation existing at Vancouver, this phase of the question was checked up. No intra-terminal switching charges are provided at Vancouver on ice and fish. The Board's Traffic Department advises that if such shipments were offered the only tariff that would be applied would be the standard mileage tariff which runs from 24 cents, first-class, to 7½ cents, tenth-class.

Complainant stated that the switching charges at Vancouver were generally less than those at Prince Rupert. A check of the published tariffs did not substantiate this contention. This being so, the matter of the service performed at Prince Rupert in connection with different movements, and the cost of same, was gone into. Detail was obtained by the Board's Operating Department in regard to the nature of the movement and the costs. These are set out in the following tabular statements:—

PRINCE RUPERT SPRUCE MILLS TO PRINCE RUPERT DRY DOCK AND ENGINEERING CO.—6,800 FEET

		Wages	Fuel and Supplies	Total
Empty car from freight yard to sawmill	12,135 ft.—55 mins..	$3 96	$5 10	$9 06
Engine from sawmill to yard and back again..	24,270 ft.—40 mins..	2 88	3 70	6 58
Loaded car from sawmill to yard for weighing..	12,135 ft.—40 mins	2 88	3 70	6 58
From yard to dry dock	5,625 ft.—20 mins..	1 44	1 85	3 29
Engine back to yard..	5,625 ft.—10 mins..	0 72	0 93	1 65
		$11 88	$15 28	$27 16

Switching charge 3 cents per 100 lbs., minimum $15 per car.

PRINCE RUPERT SPRUCE MILLS TO ALBERT AND McCAFFERY'S LUMBER YARD.—9,600 FEET

		Wages	Fuel and Supplies	Total
Empty car from freight yard to sawmill	12,135 ft.—55 mins	3 96	5 10	9 06
Engine, sawmill to yard and back to sawmill	24,270 ft.—40 mins	2 88	3 70	6 58
Loaded car, Sawmill to yard for weighing	12,135 ft.—40 mins	2 88	3 70	6 58
From yard to Albert & McCaffery's Lumber yard	2,365 ft.—15 mins	1 08	1 39	2 47
Engine back to yard	2,365 ft.— 5 mins	0 36	0 46	0 82
		$11 16	$14 35	$25 51

Switching charge 3 cents per 100 lbs., minimum $15 per car.

PRINCE RUPERT SPRUCE MILLS TO GOVERNMENT WHARVES OR FREIGHT SHED.—12,100 FEET

		Wages	Fuel and Supplies	Total
Empty car from freight yard to sawmill	12,135 ft.—55 mins	$3 96	$ 5 10	$9 06
Engine from sawmill to yard and back again	24,270 ft.—40 mins	2 88	3 70	6 58
Loaded car sawmill to yard for weighing	12,135 ft.—40 mins	2 88	3 70	6 58
From yard to Government wharf or freight shed	1,990 ft.—15 mins	1 08	1 39	2 47
Engine back to yard	1,990 ft.— 5 mins	0 36	0 46	0 82
		$11 16	$14 35	$25 51

Switching charge of 3 cents per 100 lbs., minimum $15 per car.

GOVERNMENT WHARVES OR FREIGHT SHED TO IMPERIAL OIL CO.—4,300 FEET

		Wages	Fuel and Supplies	Total
Engine, or empty car, yard to wharves or freight shed	3,250 ft.—15 mins	$1 08	$1 39	$2 47
Engine, wharves to yard and back to wharves	6,500 ft.—20 mins	1 44	1 85	3 29
Loaded car, wharves or freight shed to Imperial Oil Co.	5,180 ft.—25 mins	1 80	2 31	4 11
Engine from Imperial Oil Co. to Yard	5,180 ft.— 5 mias	0 36	0 46	0 82
		$4 68	$6 01	$10 69

Switching charge of 2 cents per 100 lbs., minimum $10 per car.

GOVERNMENT WHARVES OR FREIGHT SHED TO CANADIAN FISH AND COLD STORAGE CO.—11,600 FEET

		Wages	Fuel and Supplies	Total
Empty car from yard to wharves or freight shed	3,250 ft.—15 mins	$1 08	$1 39	$2 47
Engine from wharves to yard and back again	6,500 ft.—10 mins	0 72	0 93	1 65
Loaded car, wharves or freight shed to cold storage	12,555 ft.—60 mins	4 32	5 56	9 88
Engine back to yard	12,555 ft.—20 mins	1 44	1 85	3 29
		$7 56	$9 73	$17 29

Switching charge 3 cents per 100 lbs., minimum $15 per car.

GOVERNMENT WHARVES OR FREIGHT SHEDS TO PRINCE RUPERT DRY DOCK AND ENGINEERING CO.—6,900 FEET

		Wages	Fuel and Supplies	Total
Empty car, yard to wharves or freight shed	3,250 ft.—15 mins	$1 08	$1 39	$2 47
Engine, wharves to yard and back again	6,500 ft.—10 mins	0 72	0 93	1 65
From wharves to yard for weighing	3,250 ft.—15 mins	1 08	1 39	2 47
From yard to dry dock	5,625 ft.—20 mins	1 44	1 85	3 29
Engine back to yard	5,625 ft.—10 mins	0 72	0 93	1 65
		$5 04	$6 49	$11 53

Switching charge 2 cents per 100 lbs., minimum $10 per car.

The wages and charges for fuel and lubricants have been checked up and found to be correct. They are as follows:—

Wages—Eight Hours—	
Dispatching and repairs	$ 2 00
Engineer	7 04
Fireman	5 60
Yard foreman	6 96
Switchmen (2)	12 96
Yard clerk or weighmaster at $130 per month—$4.33.	
Yardmaster at $235 per month—$7.83.	
	$34 56
Fuel Oil, etc.—Eight Hours—	
Fuel oil	$42 25
Lubricants, waste, etc.	2 22¼
	$44 47¼

"You will note I have shown the rate of salary for the party who acts as yard clerk or weighmaster, also rate of the yardmaster, but I have not included these in the total expense for the day, as it is an open question just how much of their salary should be chargeable to revenue switching in question."

The Board's Operating Department has satisfied itself that the staff included in the movements in question is a necessary one for the operation of the yard.

Further information was obtained in regard to the average number of cars handled per trip. This is as follows:—

Prince Rupert Spruce Mills to Prince Rupert Dry Dock and Engineering Company	(1)
Prince Rupert Spruce Mills to Albert and McCaffery's lumber yard	(1)
Prince Rupert Spruce Mills to Government wharves or freight shed	(1)
Government wharves or freight shed to Imperial Oil Company	(1)
Government wharves or freight shed to Canadian Fish and Cold Storage Company	(3)
Government wharves or freight shed to Prince Rupert Dry Dock and Engineering Company	(3)

The Board's Chief Operating Officer has satisfied himself as to the accuracy of the time taken and the costs attaching thereto. It is to be noted that on four of the movements, the average number of cars handled per trip is one in each case. On the movement from Prince Rupert Spruce Mills to Prince Rupert Dry Dock and Engineering Company, where there is an average one-car movement, with a minimum of $15 per car, the total cost shown is $27.16. From the Prince Rupert Spruce Mills to Albert & McCaffrey's lumber yard, there is an average one-car movement, with minimum of $15 per car, and the total cost shown is $25.51. From the Prince Rupert Spruce Mills to the Government wharves or freight shed, there is an average one-car movement, with a minimum of $15 per car, and costs shown at $25.51. From the Government wharves or freight shed to the Imperial Oil Company, there is an average one-car movement, with a minimum of $10 per car, and costs of $10.69. In

two other cases, the average number of cars handled per trip is higher. From the Government wharves or freight shed to the Canadian Fish and Cold Storage Company, where an average of three cars are handled, there is a minimum of $15 per car and costs are $17.29. In the case of the Government wharves or freight shed to Prince Rupert Dry Dock and Engineering Company, where on the average three cars are handled, the minimum is $10 per car, and the cost is $11.53.

The burden of the local switching rates in question must be looked at from an average standpoint. Taking the four cases above referred to, where on the average one car is moved by one set of switching movements, the minimum charge for the four cars is $55, while cost figures as given amount to $88.87. On the two movements, on each of which three cars are handled, the minimum charges are $75, while the cost figures amount to $28.82. That is to say, on the six movements in question, with minimum earnings at $130, there are costs of $117.69; that is to say, the actual out-of-pocket costs on the movements in question represent 90 per cent of the minimum earnings. This is exclusive of any contribution whatever to overhead costs.

On the material before the Board, it does not appear that from a cost standpoint the Board would be justified in giving direction for a reduction in the charges in question.

DOMINION MILLERS' ASSOCIATION, WESTERN CANADA FLOUR MILLS, MONTREAL AND WINNIPEG BOARDS OF TRADE ET AL

Re

STOP-OFF CHARGES ON GRAIN

Judgment, Chief Commissioner Carrell, December 17, 1921, concurred in by the Deputy Chief Commissioner and Commissioner Rutherford.

As these three cases all have been heard by the Board at various times and are standing for judgment and are so closely interrelated, I propose to treat them in one judgment.

An examination of the history of the milling in transit privilege would rather show that it was inaugurated primarily for the purpose of encouraging the milling of grain in Western Canada, the object being the establishment of industries and the production of by-products in the West which are so necessary for the raising of livestock; and for many years the rate charged by the Canadian Pacific Railway Company for the milling-in-transit privilege was 1 cent per 100 pounds west of Fort William and 2 cents per 100 pounds east thereof on grain for domestic consumption.

In the month of February, 1917, application was made by the Dominion Millers' Association and others asking that the rate in Eastern Canada on grain milled for domestic use be reduced to 1 cent per 100 pounds, the same as that charged in Western Canada, my understanding being that the rate for export was 1 cent per 100 pounds, both in the east and in the west. After very lengthy hearings and argument, the Board delivered judgment on the 3rd day of October, 1917, directing the Canadian Pacific Railway Company to reduce the rate in the East to 1 cent per 100 pounds, as there was discrimination under the then existing conditions, holding that, as the Grand Trunk had no railway in the west (the Grand Trunk Pacific being in law a separate entity), the charge of 2 cents by that company was not discriminatory and no order was made with respect to that railway.

On the 10th day of June, 1918, the Dominion Millers' Association applied to this Board for an order directing the Grand Trunk Railway Company to discontinue the stop-over charge of 2 cents per 100 pounds on grain products for milling in transit for domestic use.

In the month of September, 1918, the Canadian Pacific, Grand Trunk, Canadian Northern, and Grand Trunk Pacific Railway Companies filed tariffs becoming

effective November 1, 1918, increasing the stop-off charge from 1 to 2 cents per 100 pounds. Protests were immediately made by the Quaker Oats Company, the Dominion Millers' Association, and the Shippers, Bureau of the Winnipeg Board of Trade against this application, asking that it be suspended pending a hearing, which was done by Order of the Board No. 27781, dated October 28, 1918. The matter came on for hearing first in Toronto in the month of October, 1918, and later on at Ottawa and practically all important points west as far as Vancouver, the principal stand against any increase in rate being made at Winnipeg in the month of March, 1919.

While this case was pending, on the 20th day of September, 1919, Mr. C. B. Watts, on behalf of the Dominion Millers' Association, applied to this Board asking that the railway companies be ordered to grant the same milling-in-transit privilege to grain grown in Ontario and Quebec as that granted to Western grain, and the three cases have been heard practicaly concurrently down to the present time.

I entirely concur in the principles enunciated by this Board in its judgment of October 3, 1917, hereinbefore referred to, viz., that, as the Grand Trunk Railway Company did not operate in Western Canada, the charge of 2 cents made by it in the east was not discriminatory, and I also agree with the Board that, because one railway may charge a different rate from a competitor, it is no evidence of discrimination.

As before stated, the milling-in-transit privilege was inaugurated for the purpose of encouraging the milling industry in Western Canada, and, without a doubt, it has served its purpose, because large mills are now in operation in most cities from Kenora to Calgary, a great business is being carried on, and the by-products in the shape of shorts and bran are available for the feed of stock, which is becoming more and more important to Western Canada. As the principal mills are on the line of the Canadian Pacific Railway Company and the rate, by the judgment above referred to, was made the same both east and west, so long as the rate is the same, no matter what it may be, no injury can befall the western mills which would not be equally applicable to the east and no lesser amount of by-products would be available in Western than in Eastern Canada.

Mr. Watts in his application for the milling-in-transit privilege being granted to Ontario and Quebec grain stated that the Grand Trunk Railway Company grants to mills in Michigan the right to mill grain produced in Michigan and other parts of the United States at a rate of one-half cent per 100 pounds and, as far as I can read the case, this statement has not been contradicted. It was alleged by the Dominion Millers' Association, and the tariff citations given in proof support the allegation that all grain coming from Detroit ex rail and ex lake is granted the milling-in-transit privilege in Ontario by both the Canadian Pacific and Grand Trunk Railway Companies, and this applies to American grown as well as Canadian-grown grain, the stop-over charge on grain from Detroit to Montreal being 1½ cents per 100 pounds, while the stop-off on grain from Goderich and Port McNicoll is 1 cent.

I am at a loss to understand why the milling-in-transit privilege should be granted to Western Canadian grain and American grain for grinding at the mills in Ontario and Quebec while the same right is denied to the grain of these two provinces, and, in my opinion, the same treatment that is handed out to grain produced in one part of Canada, not to say anything about United States grain, must be granted to grain produced in all other parts of Canada, and, therefore, I find that all grain produced in Canada should be allowed the same stop-over privileges for milling purposes, no matter in what part of Canada the milling operation takes place. This, of course, has nothing whatever to do with the out-of-line haul. In such cases, reasonable rates off the through line should be granted the transportation companies.

As I view the question, the stop-over privilege for milling, elevator, cleansing, or hospital purposes is a service incidental to transportation, customary and usual in connection with the business of the railway companies in Canada, and has nothing whatever to do with the ordinary transportation charges, and it should make no

difference whether the main line haul were 100, or 1,000, or 3,000 miles. This service should be paid for entirely independent of the line haul, and, therefore, the charge for this service, unless conditions are very dissimilar, should be the same on every railway in Canada. For this reasou, I thing that the charge for miling-in-transmit or other such services on the Grand Trunk Railway should be the same as that made by the Canadian Pacific, Canadian Northern, and Grand Trunk Pacific Railway Companies, or *any other railroad* in Canada under the jurisdiction of this Board.

This naturally brings us to the question of what is a reasonable rate for the services to be performed by the railway company, always considering that the railway company receives the legal rate for transporting the graiu from the starting point to destination, and that the stop-over privilege simply means that, if the same amount in weight is returned to the company for transportation to destination within six months, the completion of the contract of carriage will be made by the railway company at the legal through rate, whatever it may happen to be.

It would probably be impossible to find exactly the same set of circumstances at any two given points or perhaps to put it more mildly, the cost of this service at many points in Canada would be greater or less than at many other points, and all the Board can do is to arrive at a fair average value for the services performed.

This case was exhaustively heard at Winnipeg in the month of March, 1919, and argued and some additional evidence given before this Board at Ottawa in May, 1920. At the sittings in Winnipeg, evidence was furnished by both the Canadian National and the Canadian Pacific Railways as to the cost of a switching movement such as would be required with the stop-over privilege in the Winnipeg yard, and, from this evidence, it seemed pretty hard to arrive at any exact data as to how much shunting is ordinarily required for stopping off a car of grain for grinding purposes and forwarding the product thereof at a later date.

According to the evidence, in some cases, the railway company was called upon to perform two movements; i.e., the spotting of a car of grain on one side of the mill and lifting it from the other side, the car having been switched around by the milling company itself. No doubt, in many cases, a car would be placed on one side of the mill and another one lifted from the other side, involving practically one movement, and, in many other cases, the loaded car would be spotted and the empty removed after it had been unloaded and, when the flour was ready for shipment, an empty car would be spotted and the full car lifted, thus making four movements. It seemed to me to be almost impossible to arrive at any absolute conclusion as to what would be the actual cost of these switching movements.

As I read the evidence, it has never been the contention of the railway companies that the switching movement was intended to produce profit. In fact, as far back as 1916, Mr. Beatty contended that the 1 cent rate did not pay the actual cost of operation to the company but that the rate was granted to the West for the purpose of encouraging the milling industry.

Then, again, the figures furnished by the two railway companies two years ago, while fairly indicative of the cost to-day, would probably not be as accurate a year from to-day, because operating costs of all railways have to some extent been reduced during the past six months and there is no reason to believe there will not be further reductions within the next six months or a year.

I have, therefore, come to the conclusion that, as the Canadian Pacific Railway Company has always granted the stop-over privilege and performed the necessary switching for 1 cent per 100 pounds, there is no reason why a change should be made under present conditions, and, as I have already found that the rate should be the same all over Canada, this would involve a reduction of the Grand Trunk rates from 2 cents to 1 cent per 100 pounds.

I, therefore, think an order should issue that all railway companies in Canada under the jurisdiction of the Board should be allowed to charge 1 cent per 100 pounds, for the stop-over privilege for milling purposes, no matter in what part

of Canada the operation may be carried on, and the privilege should be granted to all grains produced in Canada when milled at any point in Canada, at the same rate per 100 pounds, and the several railway companies under the jurisdiction of this Board should be directed to file tariffs accordingly.

Judgment, Assistant Chief Commissioner McLean, December 30, 1921.

I agree that the proposal to increase the milling-in-transit rate from 1 cent to 2 cents should be dismissed.

In regard to the application to have the Grand Trunk discontinue the stop-over charge of 2 cents per 100 pounds on grain products shipped milling-in-transit for domestic consumption, my position is already expressed in *Dominion Millers' Association vs. Canadian Freight Association, 22 Can. Ry. Cas., 125, at p. 134.*

The further application involved is one asking that the Board direct the railways to grant the right to Ontario and Quebec mills to mill in transit grain grown in Ontario and Quebec. Ontario grain for milling and reshipment is subject to two separate contracts; one for the carriage of grain on a special basis of local rates to the mill; the other for the carriage of the product from the mill under the ordinary tariff.

In the presentation of this application, it was admitted by the applicant that there was no effective competition beween the flour milled from Ontario wheat and the flour milled from Northwest wheat. Montreal was referred to by the applicant as being the main market for Ontario wheat, and it was admitted that there was no effective competition there; and that the use of the two types of flour were different and not competitive.

The application as launched, turning, as I understand it, on unjust discrimination, I am not satisfied that a *prima facie* case of discrimination was established.

Reference was made in correspondence from the applicant, subsequent to the hearing, to milling-in-transit at Canadian points on American grain while milling-in-transit was not granted to Ontario wheat.

There is in force a Canadian Pacific tariff on grain from Detroit, ex-lake and ex-rail, with milling-in-transit arrangements and charges in Canada, and shipped to Canadian destinations. The basic charge is 1½ cent. The tariff does not limit this to American grain.

Whether or not the existence of this arrangement applicable to grain from Detroit, ex-lake and ex-rail, while there is not a milling-in-transit arrangement on Ontario grain, is unjustly discriminatory or unduly preferential is a matter into which, in my opinion, it is not necessary to go in advance of a *prima facie* case of discrimination being made out.

COMPLAINT RURAL MUNICIPALITY OF NELSON, B.C., AGAINST INCREASE IN TOLLS OF BRITISH COLUMBIA TELEPHONE COMPANY

Judgment, Assistant Chief Commissioner McLean, December 23, 1921, concurred in by Commissioner Rutherford.

Complaint was made at the sittings in Nelson, B.C., regarding the party line rates of the British Columbia Telephone Company on the west side of Kootenay lake.

In the quotation of rates by the British Columbia Telephone Company in their bills, the exchange rates are quoted as gross rates, which are subject to a discount of $1 if paid by the eighteenth of the specified month.

Applicant, in presenting his case, made the following statement:—

> "Mr. Bourke: The increase to which the telephone subscribers object to is referred to in a letter received from the manager of the Telephone Company, dated August 25, 1921:—

'DEAR SIR.—In respect to communication from Superintendent Hoover, to the effect that rates on all telephones across the lake are to be adjusted to conform to standard rates throughout the province; the rate is $3.50 gross for residence service, if the station is situated within one mile of the cable on the west side of the lake, with a mileage rate of 25 cents for each one-half mile over that distance. In this case your rate will be changed from $4 gross to $8 gross, commencing September 1, 1921'.

"For a number of years, the subscribers on the west arm of Kootenay lake have been charged a flat rate of $4 a month. That $4 a month is made up of $2.50, 50 cents for mileage over five miles, authorized by the Board, plus $1.50 for that class of service within the city limits of Nelson.

"I contend that by charging the mileage beyond five miles, it is making a charge that is not authorized by the Board. That is increasing our rates. We are six subscribers on one party line. I should also state that it has not been proven that the rural subscribers are situated beyond the stated radius. I can produce the evidence if required".

It is contended, in substance, that beyond a five-mile radius from a point where the cable pole on the west shore is situated there is a flat rate provded for. It is set out that the basis of this is to be found in an agreement which was operative in practice.

Turning to the tariffs of the company dealing with the service adjacent to Nelson, the first tariff of the British Columbia Telephone Company covering this matter as filed with the Board is, C.R.C. No. 2, effective January 1, 1920. This quoted, in respect of certain specified points (Nelson being included), a residence rate of $1.50 per month for party line beyond one mile and within a three mile radius of the central office. It was further provided that a charge of 25 cents a subscriber was to be charged on individual and two-party lines for each one-quarter mile or fraction thereof beyond the stated radius, and 25 cents for each one-half mile or fraction thereof beyond the stated radius on other party lines. Included in the service herein involved and including the submarine cable mileage is a distance of four miles from the Nelson Exchange to the cable pole. The tariff in question, in dealing with mileage charges in submarine cables, reads—

"When figuring mileage charges in submarine cables, each 175 feet or fraction thereof shall be considered as equivalent to one-quarter of a mile of overhead wire on individual lines, and 275 feet or fraction thereof as equivalent to one-quarter mile of overhead wire on party lines".

In the application launched by the British Columbia Telephone Company for increase in exchange rentals and charges for service, the following, which is of general applicability, is set out in respect to mileage charges:—

"No mileage is chargeable within the limits of any city. Subscribers situated outside city limits to be charged mileage beyond the stated radius allocated to the class of service desired, at the rate of 25 cents per month per subscriber on individual and two-party lines for each quarter mile or fraction thereof beyond the stated radius, and 25 cents for each half mile or fraction thereof beyond the stated radius on other party lines up to five miles; over this, special arrangement.

"Mileage charges for private Branch Exchange trunks are the same as those for individual business lines.

"When figuring mileage charges in submarine cables, each 175 feet or fraction thereof shall be considered as equivalent to one-quarter of a mile overhead wire on individual lines, and 275 feet or fraction thereof as equivalent to one-quarter of a mile of overhead wire on party lines".

The company's tariff C.R.C. No. 5, effective September 1, 1921, which was filed after the judgment in the above application, sets out provisions as to Mileage Charges which are identical with those above quoted.

At the hearing, reference was made to an agreement which it was stated had been entered into quite a long time ago—the date was not definitely given. Mr. Campbell, who gave evidence stated he was one of the original owners of a privately owned telephone line which certain individuals interested had intended to construct. It was represented that after negotiations had taken place, Mr. Campbell and those associated with him abandoned construction of the privately-owned line, and he said his recollection was that the British Columbia Telephone Company was to charge a flat rate per member, and that those subscribers who were at some distance were to come under the arrangement in order to make such an arrangement possible.

Mr. Starkey, for the Associated Boards of Trade, stated at the hearing that he knew about the original agreement, and thought it had been agreed that if the parties interested could get thirty subscribers the company would charge a $4 rate and construct a new line. He stated further, that some thirty signatures had been obtained: but the company was so long about installing the service that some of those who had signed dropped out. He stated that the required number of subscribers had signed the agreement, and it was duly witnessed.

The Telephone Company, in a communication on file from Mr. E. F. Helliwell, General Commercial Superintendent, makes the following statement:—

> "I have discussed this matter with Mr. Halse, who recollects the circumstances very clearly. At the time Mr. Campbell, together with Mr. Rusk and some others, abandoned their old line, which was worn out at the time, there were negotiations between them and this company, when it was suggested that if a certain number, about forty subscribers, which it was stated could be had, were secured on the west side, a flat rate would be given them. These conditions were not, however, fulfilled by the residents on the west shore, because nothing like this number of subscribers could be signed up, and at a later date we ran our Lines, without any agreement or arrangement and supplied service to some ten or twelve parties who did desire the same".

A search of the records of the Nelson Board of Trade has been made by its secretary; but in a letter addressed to Mr. Starkey, which has been forwarded by the latter to this Board, he states that he has examined the minute books as far back as 1907 and that he has not been able to locate correspondence between the company and the Nelson Board of Trade in the matter, nor has he been able to locate the written agreement. He quotes from the minutes of a meeting of the Nelson Board of Trade held November 14, 1907, which sets out the following:—

> "Mr. Busk, as chairman of the Telephone Committee, reported the result of a consultation with the Secretary of the B.C. Telephone Co., Mr. Halse; the secretary made two proposals:—
>
> "(1) that he would recommend the construction of a metallic circuit line to Proctor on a guarantee of 35 subscribers at $4 a month each, six months to be subscribed in advance; (2) that an independent company be formed to build and keep the line in repair, the B. C. Company engaging to operate it and rent instruments at 50 cents per month."

The secretary states that the rate of $4, which it is claimed was agreed upon, had remained in force for many years.

While the letter of August 25, 1921, quoted in Mr. Bourke's evidence refers to a $4 gross rate being changed to an $8 gross rate, there is before the Board a copy of Mr. Bourke's bill as rendered September 1, 1921. On this is entered the item "Exchange service for current month, $5." This is corrected to $8 and a total shown,

including $1.20 for long distance, of $9.20. It is indicated on the bill that if paid by the 18th of September, there will be a reduction of $1. This would show, then, a net rate of $4 for exchange service as billed of September 1, 1921.

The substance of what is submitted has been set out. As to the matter of the contractual basis of a rate, the obligation is to maintain a reasonable rate, and the Board is not precluded by the terms of any agreement, if proven, whether formal or informal, from seeing to this.

Lake Superior Paper Co. vs. Algoma Central and Hudson Bay Ry. Co., 22 C.R.C., 361, at p. 367.

See also Crows Nest Pass Coal Co., vs. C.P.R. Co., 8 C.R.C., 33, at pp. 40, 41.

The question is, what is contained in the tariffs. There is no conclusive evidence as to the existence of an agreement; and, further, even if there had been an agreed-on rate, this is not shown in tariff C.R.C. No. 2, nor is it shown in tariff C.R.C. No. 5. Under the Railway Act, to which the British Columbia Telephone Company, in common with other telephone companies chartered by the Dominion, is subject, the rates charged for service have to be quoted in tariffs.

Under section 375, subsection 3, a telephone company is required to file with the Board tariffs of telephone tolls to be charged; and it is provided by subsection 4, that such telephone tolls may be dealt with by the Board in the same manner as is provided in the Railway Act with respect to standard freight tariffs, and that all the provisions of the Act, except as to publication under section 342 applicable to companies thereunder with respect to standard freight tariffs and tolls, shall in so far as they are applicable and not inconsistent with the provisions of section 375, apply to the company in respect of telephone tariffs and tolls.

Under section 330, subsection 3, dealing with standard tariffs, which section is applicable, as pointed out, to telephone tariffs, it is provided that the tolls, as specified in the standard freight tariff or tariffs, as the case may be, shall, except in the case of special freight and competitive tariffs, be the only tolls which the company is authorized to charge for the carriage of goods. Subsection 4 of the same section provided that until the provisions of the section have been complied with, no toll shall be charged by the company. See in this connection, *Baker, Reynolds Co., vs. C.P.R., 10 C.R.C., 151, at p. 153.*

Under section 343, which is applicable to telephone companies, it is provided that the company file with the Board a tariff, and such tariffs coming into force the tolls set out therein are presumed to be legal against the company.

The general scheme of the Railway Act is that the rates are to be set out in tariffs, and that the rates are not a matter of bargaining to be dealt with in individual contracts. The rate, or its components, has to be so set out in the tariff that the individual desiring service may know exactly what may be legally charged to him.

The Board has no record as to the contents of the tariff of the Telephone Company prior to its coming under the jurisdiction of the Board. As already pointed out, the first tariff filed by the company does not contain a provision as to the flat rate for the service in question. It sets out provisions as to extra mileage being computed where there is a cable mileage, and also provides for an excess mileage charge of 25 cents per half mile.

Cable mileage is to be computed from the area subject to the base rate, and no limitation in set out in the tariff as to the area within which the rate so built up on the base rate and excess mileage charge is to be applicable.

The tariff filed effective September 1, 1921, repeats the provisions as to cable mileage and as to the rates on excess mileage, but has a provision that the excess mileage charge is to apply for each one-half mile or fraction thereof beyond the stated radius on other party lines up to five miles, and that over this there will be special arrangements as to rates. It will be noted that there is a difference here from what is set out in the first tariff filed.

In Canadian Condensing Co. vs. C.P.R. Co., 12 Can. Ry. Cas., 1 it was pointed out at p. 3 that the law permits no departure from the published tariff. It is established that in construing a tariff the intention is to be derived from the exact words used, and not from an intention which it is alleged the tariff had in mind although the words used do not clearly convey this.

A tariff is to be strictly construed against the company. It follows that the Board in thus construing a tariff to ascertain what rate applies under the tariff to a particular service must look to what is contained in the tariff, and not to any alleged intention which the words of the tariff might not justify.

The essence of the complaint is that a flat rate of $4 net was provided in respect of certain party line services on the west shore of Kootenay lake. This may have been the practice, and record in this regard would appear to indicate that in some instances at least only the $4 net rate had been quoted. This rate is not the rate set out in any tariff before the Board. What the Board is here concerned with is not the reasonableness of the rate, but the question as to what the tariff provides.

As already pointed out, tariff C.R.C. No. 5 provides that in the case of mileage charges over 5 miles the rates are to be based on special arrangements. As I read the Railway Act, this does not comply with the provisions of that Act in respect to tariffs. Special arrangements might seem to suggest special contract; but apparently that was not what was involved in the complaint, for the complaint of Mr. Bourke shows that the increased rate was imposed upon him without any special contract being entered into.

The rates charged as and from September 1, 1921, cover a distance of 13 miles from the cable pole on the west shore. The initial rate at the cable pole is $2; and from there on there is added a rate of 25 cents per half mile for mileage, giving a total net rate of 13 miles of $8.50. These are not rates for residence service. The rate of $4 net is to be found at a distance of 4 miles from the cable pole. The net rate up to 5 miles is $4.50.

The company provided in special tariff that the rates beyond the 5-mile distance were to be determined by special arrangement. What this special arrangement is is not set out in the tariff, but it appears, in fact, that they have charged the same rate per half-mile above the 5-mile distance as below it.

In view of what has been set out, I can find no tariff sanction in C.R.C. No. 5 for the rates beyond the 5-mile distance as above set out.

The Board has in C.R.C No. 2 accepted a tariff including, *inter alia,* a provision for excess mileage charges. This tariff is legally operative. If the principle of excess mileage is adopted, it follows that the charges in this respect must vary with the distance.

Since the hearing at Nelson, the company has made further investigation of the situation, and a revised scheme of rates, effective January 1, 1922, covering special arrangement of exchange rentals and mileages for the west side of Kootenay lake connecting with Nelson Exchange has been submitted. This covers rates for the distance of 13 miles from the cable pole. It is represented that the matter has been gone into fully with the mayor of Nelson. What is proposed under this scheme is that the rate at the cable pole remaining at $2, the following rearrangements shall be made: There is to be a charge of 25 cents for each half mile up to the 2 miles from the cable pole, and beyond 2 miles and up to 13 miles a charge of 25 cents per mile. This leaves the net rates up to 2 miles from the cable pole, or 6 miles from Nelson, at $3. The following variations then take place: The 3rd mile, $3.25 instead of $3.50; the fourth mile, $3.50 instead of $4; the fifth mile, $3.75 instead of $4.50; the sixth mile, $4 instead of $5, and grading from this to $5.75 at the 13th mile instead of $8.50 on the scale already referred to. The rates are net rates for residence service. The grading as to mileage is a concession from the general principle laid down in C.R.C. No. 2 and is in case of the situation. It appears to be acceptable.

Re RECOVERY OF TRIPLE DAMAGES FROM CANADIAN PACIFIC RAILWAY FOR EXCESS CHARGES ON CERTAIN LIVE STOCK SHIPMENTS TO UNITED STATES POINTS

Judgment, Assistant Chief Commissioner McLean, December 24, 1921, concurred in by Commissioner Rutherford.

Two applications are involved. The application of the Frank Hill Cattle Company, Limited, of Calgary, sets out that in respect of various shipments of live stock made during the period from September to December, 1920, from Calgary to the cities of Chicago and St. Paul, the total charges as collected for freight, feed and services amounted to $6,079.60; and it is claimed that the overcharges thereon amounted to $804.10, which represents an overcharge, as claimed, of approximately 13 per cent.

In the case of J. M. Dillon, of Cayley, Alta., the shipments of live stock involved were made during the month of November, 1920, from Cayley, Alta., to Chicago. It is set out that the amount collected for freight, feed and services thereon amounted to $5,359.24; and that the overcharge on same amounted to $663.30, which represents approximately an overcharge, as claimed, of 12·3 per cent.

The applications as launched deal with matters arising out of the adverse exchange situation. The practice of goods going forward collect, with charges payable at destination in American funds, is not contested; but it is alleged that the Canadian carrier participating in the international haul received his share of the amount so collected in American funds, and that to the extent he was paid in American funds the excess over what his division of the rate in Canadian currency would represent means an excess payment to which he is not entitled.

The transactions herein involved took place before the issuance of the Board's General Order No. 326.

The submission of applicants was that the contracts under which the shipments were made were Canadian contracts entered into between the Canadian shipper and the Canadian railway under tariffs fixed by the Canadian Board of Railway Commissioners, and that the rate was payable in Canadian currency whereas the charges were actually collected in American currency. In other words, an overcharge was made. In the submission, the tariff was spoken of as having been fixed by the Board of Railway Commissioners. In another connection, applicants' solicitor spoke of the tariff having been approved by the Board, and referred in this connection to section 330. Section 330 deals with standard tariffs which are required to be formally approved by the Board, and not with joint tariffs from a point in Canada to a foreign country, as dealt with in section 338. Here, the several companies are required to file with the Board a joint tariff for such continuous route.

Section 389, under which the applications are launched, deals with certain consequences of infractions of the provisions of the Railway Act, or of orders of the Board dealing with tolls. It is not alleged that there is an infraction of any order, direction, decision or regulation of the Board in respect of tolls. The complaint, therefore, to fall within the section must be concerned with an infraction by the company, or any officer, servant or agent of the company, of any provision of the Railway Act in respect of tolls. The section goes on to recite that where there is such infraction of any provision of the Railway Act the company shall be liabel at the suit of any person injured by reason of any such infraction to three times the amount of the actual damage that such person may prove to have so sustained. It is further provided that action is not to be commenced for any such triple damages before the leave of the Board has first been obtained. What is pertinent, then, is what section of the Act has been infringed?

What is involved, as I understand the situation, is an abnormal condition arising out of depreciation in Canadian currency. The Board is given very wide powers in regard to matters of railway regulation. At the same time, it must always be borne

in mind that its powers being statutory it must find the scope of these powers being within the four corners of the Railway Act. The Board is a statutory tribunal and its powers are tied down to the scope of matters falling within the Railway Act. It is not the function of the Board to supplant or supplement the provincial courts in the exercise of their ordinary jurisdiction. The matter was most pertinently set out by the late Chief Commissioner Killam in *Duthie vs. G.T.R. Co., 4 Can. Ry. Cas., 304, at p. 311,* when he said:—

> "Occasionally one hears or reads references which suggest that misconceptions prevail in this connection. Applications or complaints are made to us which are apparently based upon a hazy notion that the Board was created for the purpose of adjudicating upon any claim against or dispute with a railway company. For two reasons we are not to begin with the assumption that such was the purpose for which the Board was established: (1) The Board is purely a creature of statute. The general principle applicable to such a body is that its jurisdiction is only such as the statute gives by its express terms or by necessary implication therefrom. (2) Our constitution assigns to the Provincial Legislatures the subjects of "property and civil rights in the province" and "the administration of justice in the province, including the constitution, maintenance and organization of provincial courts, both of civil and criminal jurisdiction, and including the procedure in civil matters in those courts." (See B.N.A. Act 1867, sec. 92, subsecs. 13, 14.). Corporations created by the Parliament of Canada are ordinarily subject to the Provincial laws relating to property and civil rights, and *prima facie*, civil claims against them should be prosecuted in the provincial courts. The Parliament of Canada is empowered to provide "for the establishment of any additional courts for the better administration of the laws of Canada" (See B.N.A. Act, 1867, sec. 101), and in the exercise of its powers to legislate on certain subjects, Parliament may incidentally encroach upon the field of Provincial legislation. Such encroachments, however, are not to be presumed, but must be clearly indicated and be limited to the extent reasonably necessary for giving effect to the enactments of Parliament upon subjects within its powers."

It seems to me that the comment of Bramwell, L.J., in passing upon the scope of the functions of the English Railway and Canal Commission, is also pertinent: ".. .. ..I must say that I think one ought not to suppose that the legislature intended to give to the commissioners a jurisdiction in matters which could be quite as well exercised by the ordinary courts of justice." *Great Western Ry. Co. vs. the Railway Commissioners and James Brown, 7, Q.B.D., 182-193.*

The applicants' solicitor, although questioned at the hearing, did not refer the Board to any specific provision of the Railway Act which it was alleged covered the matter in question and which, it was alleged, was infringed. I have given the matter careful consideration and I have been unable to find any section which by necessary inference gives the Board power to deal with the phases of constructual obligation involved, which are alleged to turn upon the question that the Canadian currency is at present depreciated as compared with the currency of the United States. In other words, I cannot see that the subject matter of the complaint has been brought within the scope of section 389, or that it falls either by explicit statement or necessary inference within the broad powers conferred upon the Board. As I read the Railway Act, it is, therefore, open to the applicant, without the intervention of the Board, to pursue his rights, if any, in a court of competent jurisdiction.

APPENDIX "B"

REPORT OF THE ASSISTANT CHIEF TRAFFIC OFFICER OF THE BOARD FOR THE YEAR ENDING DECEMBER 31, 1921

SIR,—I have the honour to submit, for the seventeenth annual report of the Board, a memorandum of the freight, passenger, express, telephone, telegraph, and sleeping and parlour car schedules filed with the Board from November 1, 1904, when, by order of the Board, under the authority of section 311 of the Railway Act, 1903, the railway companies commenced filing their tariffs, to December 31, 1920; and from January 1, 1921, to December 31, 1921, inclusive; also, of the more important orders relating to traffic issued by the Board to December 31, 1921:—

SCHEDULES RECEIVED FROM NOVEMBER 1, 1904, TO AND INCLUDING DECEMBER 31, 1920

Freight—			
Local tariffs	14,592		
Supplements	30,209	44,801	
Joint tariffs	32,029		
Supplements	93,216	125,245	
International tariffs	119,813		
Supplements	372,283	492,096	662,142
Passenger—			
Local tariffs	15,330		
Supplements	19,709	35,039	
Joint tariffs	13,114		
Supplements	21,524	34,638	
International tariffs	25,878		
Supplements	51,832	77,710	147,387
Express—			
Local tariffs	5,915		
Supplements	56,014	61,929	
Joint tariffs	6,223		
Supplements	20,625	26,848	
International tariffs	4,211		
Supplements	2,549	6,760	95,537
Telephone—			
Local tariffs	2,403		
Supplements	1,802	4,205	
Joint tariffs	3,330		
Supplements	20,207	23,537	
International tariffs	429		
Supplements	9,715	10,144	37,886
Telegraph—			
Tariffs	169		
Supplements	183	352	352
Sleeping and Parlour Car—			
Local tariffs	150		
Supplements	184	334	
Joint tariffs	109		
Supplements	194	303	
International tariffs	200		
Supplements	606	806	1,443
Combined totals, all schedules			944,747

SCHEDULES RECEIVED FROM JANUARY 1, 1921, TO AND INCLUDING DECEMBER 31, 1921

Freight—			
Local tariffs	2,110		
Supplements	3,598	5,708	
Joint tariffs	4,351		
Supplements	13,272	17,623	
International tariffs	9,970		
Supplements	22,978	32,948	56,279
Passenger—			
Local tariffs	1,813		
Supplements	2,249	4,062	
Joint tariffs	2,302		
Supplements	3,463	5,765	
International tariffs	3,305		
Supplements	6,697	10,002	19,829
Express—			
Local tariffs	108		
Supplements	1,219	1,327	
Joint tariffs	52		
Supplements	2,391	2,443	
International tariffs	1,765		
Supplements	4,412	6,177	9,947
Telephone—			
Local tariffs	125		
Supplements	190	315	
Joint tariffs	166		
Supplements	5,995	6,161	
International tariffs	0		
Supplements	4	4	6,480
Telegraph—			
Tariffs	4		
Supplements	17	21	21
Sleeping and Parlour Car—			
Local tariffs	37		
Supplements	59	96	
Joint tariffs	61		
Supplements	98	159	
International tariffs	56		
Supplements	153	209	464
Combined total, all schedules			93,020
Grand total			1,037,767

Summary of Traffic Orders of General Interest Issued During the Year Ended December 31, 1921

No. 30496, January 3, 1921.—Approves reduced Standard Mileage Freight Tariffs C.R.C. No. 130, of the Edmonton, Dunvegan and British Columbia Railway, and C.R.C. No. 57 of the Central Canada Railway.

No. 30505, January 3, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and The Sutton and North Gwillimbury Telephone Company, operating in the County of York, Ont.

No. 30506, January 3, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and The Riordan Company, Limited, operating in the County of Terrebonne, Que.

No. 30507, January 3, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Ashgrove Rural Telephone Company, operating in the County of Halton, Ont.

No. 30508, January 4, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the King Telephone Company, operating in the County of York, Ont.

No. 30509, January 4, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Champlain Point Telephone Company, operating in the County of Ontario, Ont.

No. 30510, January 4, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Corporation of the Township of Douro, operating in the County of Peterborough, Ont.

No. 30511, January 4, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Riordan Company, Limited, operating in the County of Labelle, Que.

No. 30513, January 4, 1921.—Approves certain reduced fare transportation privilege certificates for Commercial Travellers.

No. 30531, January 6, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and The Fifth Line Telephone Company, operating in the County of Grey, Ont.

No. 30535, January 6, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and The Silcote Telephone Company, operating in the County of Grey, Ont.

No. 30540, January 12, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Erie Telephone Company, operating in the County of Haldimand, Ont.

No. 30544, January 12, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Caradoc-Ekfrid Telephone Company, operating in the County of Middlesex, Ont.

No. 30553, January 14, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Mount Granite Telephone Company, operating in the District of Algoma, Ont.

General Order No. 326, January 14, 1921.—Prescribes amount of exchange surcharge in connection with shipments of freight between points in Canada and points in the United States.

No. 30592, January 27, 1921.—Approves Standard Freight Mileage Tariff, C.R.C. No. 4, of the Toronto Suburban Railway.

No. 30594, January 26, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Fenalla Rural Telephone Company, operating in the County of Northumberland, Ont.

No. 30598, January 26, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Peoples Telephone Company, operating in the County of Lambton, Ont.

No. 30613, February 1, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Aldborough Farmers Telephone Association, operating in the Counties of Elgin and Middlesex, Ont.

No. 30615, February 1, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Corporation of the Township of Tilbury East, operating in the County of Kent, Ont.

No. 30616, February 1, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Melancthon Telephone Company, operating in the County of Dufferin, Ont.

No. 30617, February 1, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Hawley Telephone Company, operating in the County of Lennox and Addington, Ont.

No. 30618, February 1, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Camperdown Telephone Company, operating in the County of Grey, Ont.

General Order No. 327, February 2, 1921.—Authorizes express companies to increase their rates and charges 35 per cent on all traffic, excepting that classified 2nd class, on which the increase is 25 per cent, excluding articles of food covered by published commodity tariffs, on which the increase is 20 per cent.

No. 30619, February 2, 1921.—Authorizes the Dominion Atlantic Railway Company to file a tariff providing for unloading charges at Halifax, N.S., on export freight traffic, of 1½ cents per 100 pounds on perishable freight and 3 cents per 100 pounds on other freight.

No. 30626, February 6, 1921.—Approves Express Classification for Canada No. 5, C.R.C. No. E.T. 712, to become effective February 9, 1921.

No. 30639, February 2, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Corporation of the Township of Cramahe, operating in the County of Northumberland, Ont.

No. 30639, February 2, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Sebringville Telephone Company, operating in the County of Perth, Ont.

No. 30640, February 2, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and La Compagnie de Telephone de Piopolis, operating in the County of Frontenac, Que.

No. 30642, February 2, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and Le Telephone Local de Garthby, operating in the County of Wolfe, Que.

No. 30643, February 2, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Kemble-Sarawak Telephone Company, operating in the County of Gray, Ont.

No. 30658, February 14, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the South Bruce Rural Telephone Company, operating in the County of Bruce, Ont.

No. 30660, February 11, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Princeton Drumbo Telephone Company, operating in the Counties of Oxford and Brant, Ont.

No. 30670, February 18, 1921.—Approves Supplement No. 15 to the Canadian Freight Classification No. 16, showing revised and increased ratings on liquor; provided that there shall be no increase on native Ontario wines, and that the clause respecting owner's risk of breakage be eliminated.

No. 30688, February 22, 1921.—Approves Standard Freight Mileage Tariff C.R.C. No. 738, of the Quebec, Montreal and Southern Railway.

No. 30690, February 24, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Corporation of the Township of Tarbutt and Tarbutt Additional, operating in the District of Algoma, Ont.

No. 30705, February 23, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Uhthoff Telephone Company, operating in the County of Simcoe, Ont.

General Order No. 331, March 5, 1921.—Prescribes amount of exchange surcharge payable in respect of international passenger traffic between Canada and the United States.

No. 30717, March 9, 1921.—Extends time within which the Canadian Pacific Railway Company may test cylinders used for the shipment of compressed gases.

No. 30730, March 9, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Tarentorus Telephone Company, operating in the District of Algoma, Ont.

No. 30731, March 9, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Maple Leaf Telephone Company, operating in the County of Grey, Ont.

No. 30732, March 9, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Glen Eden Telephone Company, operating in the County of Grey, Ont.

No. 30738, March 8, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Haldimand Rural Telephone Company, operating in the County of Northumberland, Ont.

General Order No. 332, March 14, 1921.—Amends the live stock valuations in the classification when shipped with household goods and settlers' effects.

No. 30772, March 14, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Sunderland Telephone Company, operating in the Counties of Ontario and York, Ont.

No. 30783, March 15, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Conn Telephone Company, operating in the Counties of Wellington, Gray and Dufferin, Ont.

No. 30784, March 17, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Lacloche Rural Telephone Company, operating in the District of Algoma, Ont.

No. 30794, March 16, 1921.—Declares 2 cents per 100 pounds to be the proper charge for switching stone dust from the Thames Quarry Company's plant to the factory of Deviney & Campbell at St. Marys, Ontario; and authorizes the Canadian Pacific Railway Company to refund overcharges to this basis.

No. 30804, March 21, 1921.—Approves Standard Local Passenger Tariff, C.R.C. No. P-16, of the Hull Electric Company, providing a 25-cent fare applicable between Ottawa and Hull and the Connaught Park Jockey Club.

No. 30806, March 18, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Leith and Annan Telephone Company, operating in the County of Grey, Ont.

No. 30811, March 22, 1921.—Approves Supplement No. 16 to the Canadian Freight Classification No. 16.

No. 30818, March 21, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Corporation of the Township of Percy, operating in the County of Northumberland, Ont.

General Order No. 333, March 26, 1921.—Prescribes the form, size, and style of the tariffs of telephone tolls to be charged by telephone companies; and approves the system of publication of long distance tolls, known as the "Standard Toll Rate Quoting System."

No. 30832, March 24, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Zion & Wolseley Telephone Company, operating in the County of Grey, Ont.

No. 30833, March 26, 1921.—Approves Standard Freight Mileage Tariff, C.R.C. No. C-2010, of the Maine Central Railroad Company.

No. 30856, April 4, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Port Hope Telephone Company, operating in the County of Durham, Ont.

General Order No. 337, April 8, 1921.—Prescribes regulations for charges for fixing car doors and loading charges in cases where box cars are supplied by a railway company in lieu of stock cars ordered by the shipper.

General Order No. 338, April 13, 1921.—Authorizes a general increase of 12 per cent in the tolls of the Bell Telephone Company of Canada.

No. 30908, April 16, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Woodford Telephone Company, operating in the County of Grey, Ont.

No. 30909, April 16, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Centre Road Telephone Company, operating in the County of Grey, Ont.

No. 30915, April 19, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and La Compagnie de Telephone de St. Jude, operating in the County of St. Hyacinthe, Que.

No. 30917, April 20, 1921.—Approves Standard Freight Mileage Tariff, C.R.C. No. 646, of the Chatham, Wallaceburg & Lake Erie Railway.

No. 30972, May 4, 1921.—Prescribes rate of 2 cents per 100 pounds for switching stone dust from the Thames Quarry Company's plant to the factory of Deviney & Campbell at St. Mary's, Ontario, over the Canadian Pacific Railway, the said rate to apply to shipments made on and after March 16, 1921; and rescinds Order No. 30794, dated March 16, 1921.

No. 30989, May 7, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the East Luther Telephone, operating in the County of Dufferin, Ont.

No. 31005, May 9, 1921.—Approves Supplement No. 1 to C.R.C. No. E.T. 694 of the Express Traffic Association of Canada, an addition to the Regulations for Transportation by Express of Dangerous Articles.

No. 31012, May 10, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Alnwick Rural Telephone Company, operating in the County of Northumberland, Ont.

No. 31013, May 10, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Pine Grove Telephone Association, operating in the County of Simcoe, Ont.

No. 31021, May 2, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Houghton, Bayham & Tilsonburg Telephone Association, operating in the Counties of Norfolk and Elgin, Ont.

No. 31022, May 2, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Norfolk & Tillsonburg Telephone Company, operating in the Counties of Norfolk and Elgin, Ont.

No. 31039, May 20, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Mayo & Blanche Rural Telephone Company, operating in the County of Labelle, Que.

General Order No. 341, May 21, 1921.—Requires railway companies to reduce the rates on coal from mines in the Provinces of Alberta and Saskatchewan to points in the Provinces of Alberta, Saskatchewan and Manitoba, by ten per cent, including coal actually billed out up to and including the 31st day of August.

No. 31050, May 30, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Pembroke and Mud Lake Telephone Company, operating in the County of Renfrew, Ont.

No. 31052, May 30, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the St. Mary's Telephone System, Limited, operating in the County of Shefford, Que.

No. 31069, June 2, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Gloucester Township Telephone Company, operating in the Counties of Carleton and Russell, Ont.

No. 31070, June 1, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Allenford Rural Telephone Compay, operating in the Counties of Bruce and Grey, Ont.

No. 31096, June 2, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Johnson Municipal Telephone System.

No. 31097, June 2, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Lucknow and Kinloss Telephone Company, operating in the County of Bruce, Ont.

No. 31098, June 2, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Corporation of the Township of Sandwich South, operating in the County of Essex, Ont.

No. 31099, June 7, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Waterloo Municipal Telephone System, operating in the County of Waterloo, Ont.

General Order No. 342, June 9, 1921.—Approves supplements to standard passenger tariffs of various railway companies, to become effective July 1, 1921, on the reduced basis prescribed by General Order No. 308, dated September 9, 1920.

No. 31109, June 10, 1921.—Prescribes tolls to be charged by the Bell Telephone Company of Canada for telephone service in the Village of Rockcliffe, Ontario.

No. 31113, June 10, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Parkdale Rural Telephone Company, operating in the County of Middlesex, Ont.

No. 31117, June 16, 1921.—Approves Supplement 1 to Standard Mileage Freight Tariff C.R.C. No. 165, of the Lake Erie and Northern Railway.

No. 31118, June 16, 1921.—Approves Standard Mileage Freight Tariff C.R.C. No. 57, of the Grand River Railway.

No. 31128, June 14, 1921.—Approves Standard Passenger Tariff C.R.C. No. 45, of the Chatham, Wallaceburg and Lake Erie Railway.

No. 31171, June 22, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Cameron Telephone Company, operating in the County of Victoria, Ont.

No. 31178, June 27, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Haldimand Municipal Telephone System, operating in the County of Northumberland, Ont.

No. 31184, June 25, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and La Compagnie de Téléphone de Warwick, operating in the Counties of Drummond and Arthabaska, Que.

No. 31185, June 25, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Cold Springs Rural Telephone Company, operating in the County of Northumberland, Ont.

No. 31190, June 24, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Belmont Telephone Co-operative Association, operating in the Counties of Middlesex and Elgin, Ont.

No. 31199, June 30, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Lambton Telephone Company, operating in the County of Lambton, Ont.

No. 31212, July 4, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and The Metcalfe Rural Telephone Company, operating in the County of Carleton, Ont.

No. 31228, July 8, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Ingersoll Telephone Company, operating in the County of Oxford, Ont.

No. 31262, July 13, 1921.—Approves Supplement No. 1 to Standard Freight Tariff C.R.C. No. 1630, of the Great Northern Railway.

No. 31261, July 13, 1921.—Prescribes conditions under which the L'Air Liquide Society be permitted to make use of 2,500 high pressure cylinders for the transportation of acetylene.

No. 31271, July 15, 1921.—Approves Supplement No. 1 to the Express Classification for Canada No. 5.

No. 31285, July 18, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Lake Charles Telephone Company, operating in the County of Grey, Ont.

No. 31286, July 18, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and The Brussels, Morris and Grey Municipal Telephone System, operating in the County of Huron, Ont.

No. 31294, July 21, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and La Compagnie Téléphone Rural de Soulanges, operating in the Counties of Soulanges and Vaudreuil, Que.

No. 31295, July 21, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and The Mississauga River Improvement Company, operating in the District of Algoma, Ont.

No. 31303, July 23, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Coldwater Municipal Telephone System, operating in the County of Simcoe, Ont.

No. 31304, July 23, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the United Telephone Company, operating in the County of Middlesex, Ont.

No. 31310, July 27, 1921.—Authorizes an increase in tolls for exchange rentals and charges for service of the British Columbia Telephone Company.

No. 31317, July 27, 1921.—Authorizes the Nipissing Central Railway to make an average increase of 20 per cent in existing passenger rates; and requires the Company to file with the Board monthly statements showing its earnings and expenses.

No. 31320, July 26, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and The Pontiac Rural Telephone Company, operating in the County of Pontiac, Que.

No. 31321, July 26, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Roxborough Municipal Telephone System, operating in the Counties of Stormont and Glengarry, Ont.

No. 31322, July 26, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and The Thedford, Arkona & East Lambton Telephone Company, operating in the County of Lambton, Ont.

No. 31329, July 28, 1921.—Permits the Canadian Pacific Railway to cancel stop-off arrangements at Place Viger, Montreal, and at Simcoe Street and the Esplanade, Toronto, on shipments of grain products, hay and potatoes. Inspection to be retained in all cases as it now exists, and stop-off for inspection, change of destination, or for orders, to be retained at Outremont and West Toronto, or Lambton, as at present.

No. 31342, July 25, 1921.—Authorizes the Canadian National Railways to file a rate on grain and grain products, in carloads, from the head of the Lakes to Lévis, Quebec, of 40½ cents, the same as that which is in effect to Quebec City.

No. 31381, August 12, 1921.—Approves Standard Passenger Tariff C.R.C. No. 23, of the Nipissing Central Railway.

No. 31394, August 19, 1921.—Approves tariff C.R.C. No. 5, covering Exchange Rentals and Charges; and Supplement No. 1 to Tariff C.R.C. No. 3, covering Toll Charges, of the British Columbia Telephone Company.

No. 31400, August 17, 1921.—Requires the American Railway Express Company to publish and file a tariff showing a proportional rate of 24 cents per 100 pounds on fruits and vegetables from shipping points on the Toronto, Hamilton and Buffalo Railway to Hamilton, applicable to shipments destined beyond Hamilton.

No. 31405, August 6, 1921.—Authorizes reduced ratings on rubber and rubber articles—Tires and Tire Tubes—to be published in Supplement No. 17 to Canadian Freight Classification No. 16.

No. 31421, August 19, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Corporation of the Township of Brooke, operating the Brooke Municipal Telephone System in the Counties of Lambton and Middlesex, Ont.

No. 31429, August 19, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and La Compagnie de Téléphone St. Ours, operating in the Counties of Richelieu, St. Hyacinthe, and Verchères, Que.

No. 31489, September 12, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Verona and Frontenac Telephone Company, operating in the County of Frontenac, Ont.

No. 31490, September 12, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Lennox Telephone Company, operating in the County of Lennox and Addington, Ont.

No. 31504, September 15, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the North Gosfield Municipal Telephone System, operating in the County of Essex, Ont.

No. 31511, September 14, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Magnetawan Municipal Telephone System, operating in the District of Parry Sound, Ont.

No. 31512, September 15, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Fingal Telephone Company, operating in the County of Elgin, Ont.

No. 31555, September 13, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the McKellar Municipal Telephone System, operating in the District of Parry Sound, Ont.

No. 31560, September 21, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Erin Municipal Telephone System, operating in the County of Wellington, Ont.

General Order No. 346, September 23, 1921.—Amends Section 1832 of the Regulations for the Transportation of Explosives and other Dangerous Articles by Freight so as to permit of the shipment of phosphorous in metal containers.

No. 31607, October 3, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and La Compagnie de Téléphone de Bromptonville, operating in the Counties of Richmond and Sherbrooke, Que.

No. 31608, October 3, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and The Burnt River Telephone Company, operating in the Counties of Victoria and Peterborough, Ont.

No. 31610, October 3, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Dummer Municipal Telephone System, operating in the County of Peterborough, Ont.

No. 31611, October 3, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Havelock-Cordova Telephone Company, operating in the Counties of Peterborough and Hastings, Ont.

No. 31625, October 5, 1921.—Requires the Canadian National Railways and the Canadian Pacific Railway to publish and file tariffs applying the lumber commodity rate of 17 cents per 100 pounds on shipments of cooperage stock from Smiths Falls, Ont., to Montreal, Que.

No. 31648, October 11, 1921.—Requires the publication and filing of tariffs showing special class rates from Pacific termini to points in British Columbia, Alberta, Saskatchewan and Manitoba.

No. 31669, October 18, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Manvers Municipal Telephone System, operating in the County of Durham, Ont.

No. 31696, October 21, 1921.—Approves Standard Passenger Tariff C.R.C. No. 3, of the Sydney & Louisburg Railway.

No. 31697, October 21, 1921.—Approves Standard Passenger Tariff C.R.C. No. 2, of the Sydney & Louisburg Railway.

No. 31698, October 21, 1921.—Approves Standard Passenger Tariff C.R.C. No. 7, of the Cumberland Railway and Coal Company.

No. 31709, October 25, 1921.—Requires the Canadian Pacific, Grand Trunk, Père Marquette, Chatham, Wallaceburg & Lake Erie, and Wabash Railway Companies and the Michigan Central Railroad, to reduce their mileage rates on sugar beets, in carloads, to Wallaceburg, Ontario.

No. 31721, October 31, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and The Nelson Telephone Company, operating in the Counties of Halton and Wentworth, Ont.

No. 31727, November 2, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Hyndford-Douglas Telephone Association, operating in the County of Renfrew, Ont.

No. 31728, November 2, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Lightning Telephone Company, operating in the County of Renfrew, Ont.

No. 31740, November 3, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Sunny Valley Telephone Company, operating in the County of Grey, Ont.

No. 31749, November 9, 1921.—Approves Supplement No. 2 to C.R.C. E.T.694 of the Express Traffic Association of Canada, covering revised rules in connection with the carriage of electrolyte.

No. 31754, November 8, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Bolton Telephone Company, operating in the Counties of Peel and York, Ont.

No. 31762, November 10, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Tilbury West Municipal Telephone System, operating in the County of Essex, Ont.

No. 31784, November 17, 1921.—Approves Supplement No. 18 to the Canadian Freight Classification No. 16.

No. 31800, November 21, 1921.—Amends Order No. 31310, dated July 27, 1921, and declares that the increase in tolls allowed the British Columbia Telephone Company should apply only in Vancouver, North Vancouver, Victoria, New Westminster, and Nanaimo.

No. 31805, November 21, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Moore Municipal Telephone System, operating in the County of Lambton, Ont.

No. 31806, November 21, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Yarmouth Rural Telephone Company, operating in the County of Elgin, Ont.

No. 31807, November 21, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Glenelg Municipal Telephone System, operating in the County of Grey, Ont.

General Order No. 349, November 23, 1921.—Requires a reduction in the charges contained in Rule 9 of the Canadian Car Demurrage Rules.

No. 31809, November 24, 1921.—Prescribes tolls to be charged by the British Columbia Telephone Company at its Kerrisdale Exchange.

No. 31811, November 23, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Woodbridge & Vaughan Telephone Company, operating in the Counties of York and Peel, Ont.

No. 31812 November 23, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Spey River Telephone Company, operating in the County of Grey, Ont.

General Order No. 350, November 24, 1921.—Authorizing a general reduction in domestic freight rates within Canada.

No. 31828, November 28, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Prescott Rural Telephone Company, operating in the County of Prescott, Ont.

General Order No. 352, December 1, 1921.—Approves Standard Freight Tariffs of various railway companies, to become effective December 1, 1921, on the reduced basis prescribed by General Order of the Board No. 350, dated November 24th, 1921.

No. 31871, December 7, 1921.—Approves Standard Mileage Freight Tariff C.R.C. No. 57, of the Grand River Railway.

No. 31872, December 7, 1921.—Approves Supplement No. 2 to Standard Mileage Freight Tariff C.R.C. No. 165, of the Lake Erie & Northern Railway.

No. 31893, December 9, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Enterprise Telephone System, operating in the County of Lennox and Addington, Ont.

No. 31907, December 13, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Laurentide Telephone Company, operating in the County of Hull, Que.

No. 31917, December 13, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Coulson-Jarratt Telephone Company, operating in the County of Simcoe, Ont.

No. 31940, December 21, 1921.—Approves agreement for interchange of telephone service between the Bell Telephone Company and the Violet Hill Telephone Company, operating in the County of Dufferin, Ont.

I have the honour to be, sir,

Your obedient servant,

GEO. A. BROWN,
Assistant Chief Traffic Officer.

A. D. CARTWRIGHT,
Secretary, B.R.C.

APPENDIX "C"

REPORT OF THE CHIEF ENGINEER OF THE BOARD FOR THE YEAR ENDING DECEMBER 31, 1921

A. D. CARTWRIGHT, Esq.,
Secretary, Board of Railway Commissioners,
Ottawa, Ont.

SIR,—I have the honour to submit herewith a synopsis of my annual report as to the work of the Engineering Department of the Board during the year 1921:—

ROUTE MAPS

The Canadian Pacific Railway filed and obtained approval of a revision of their Interprovincial and James Bay Railway from Mileage 53 to 69.

The Canadian National Railways filed and obtained approval of a revision of their Rosedale Easterly Branch from Mileage 27 to 118; also of their Eston Southeasterly Branch from Mileage 32 to 44.

The Montreal Central Terminal Railway filed and obtained approval of their general route in the city of Montreal, P.Q.

LOCATION

Plans have been approved showing the final location of a number of branch lines. These are for the most part in the western provinces, and are as follows:—

Canadian Pacific Railway

Moose Jaw Southwesterly Branch, Saskatchewan. Mileage 64·59 to 114·02.
Moose Jaw Southwesterly Branch, Saskatchewan. Mileage 114·02 to 203·24.
Quebec Central Railway—Scott station to Diamond Junction, P.Q.

Canadian National Railways

Meeting Lake Branch, Saskatchewan. Mileage 0 to 23·01.
Acadia Valley Branch, Alberta. Mileage 23·03 to 43·36.

Michigan Central Railway

Through township of Crowland, Ont. Mileage 0 to 8·833.

Brantford Street Railway

Holmedale Extension, Brantford, Ont.
Eagle Place Extension, Brantford, Ont.

REVISED LOCATION

Canadian Pacific Railway

Bassano Easterly Branch, Saskatchewan. Mileage 194·39 to 222·13.
Rosetown Southeasterly, Saskatchewan. Mileage 44·37 to 63·47.

Canadian National Railways

Eston Southeasterly Branch, Saskatchewan. Mileage 31·13 to 35·22.
Kamloops, Kelowna Lumby Branch, B.C. Mile 66 to 69.
Kamloops, Kelowna Lumby Branch, B.C. Mileage 10 to 11·1..
Kamloops, Kelowna Lumby Branch, B.C. Through Sec. 11, Tp. 4, R. 28, W. 6 M.
Kamloops, Kelowna Lumby Branch, B.C. Mileage 0 to 0·9.
Kamloops, Kelowna Lumby Branch, B.C. Through Sec. 15, Tp. 17, R. 11, W. 6 M.
Kamloops, Kelowna Lumby Branch, B.C. Through Sec. 29, Tp. 18, R. 14, W. 6 M.
Kamloops, Kelowna Lumby Branch, B.C. Through Sec. 36, Tp. 17, R. 14, W. 6 M.
Kamloops, Kelowna Lumby Branch, B.C. Through Tp. 19, R. 15, W. 6 M.
Kamloops, Kelowna Lumby Branch, B.C. Through Tp. 18, R. 14, W. 6 M.
Canadian Northwestern Railway, Alberta. Through Sec. 28, Tp. 57, R. 8, W. 5 M. Mayerthorpe, Alta.
Turtleford Branch, Saskatchewan. Through Sec. 5, Tp. 52, R. 21, W. 3 M.
Turtleford Branch, Saskatchewan. Through Sec. 6, Tp. 53, R. 21, W. 3 M.
Turtleford Branch, Saskatchewan. Through Sec. 5, Tp. 54, R. 22, W. 3 M.
Acadia Valley Branch, Alberta. Mileage 23·90 to 42·23.

Windsor, Essex and Lake Shore Rapid Railway

Main street to Lansdowne avenue, Kingsville, Ont.

HIGHWAY CROSSINGS

In connection with the above location plans, a large number of highway crossings and highway diversion plans were approved, and a number of crossings of existing railways. In all, about five hundred and forty crossings were approved, and thirty-five diversions of highways, distributed as follows:—

New Brunswick—Four crossings.
Quebec—Twenty-five crossings, three diversions.
Ontario—One hundred and twenty crossings, ten diversions.
Manitoba—Forty-seven crossings, three diversions.
Saskatchewan—Two hundred and sixty crossings, twelve diversions.
Alberta—Eighty crossings, five diversions.
British Columbia—Twenty-nine crossings.

Of the crossings in Ontario and Quebec a large proportion were approved in connection with industrial spurs.

Authority was granted for the construction of twelve overhead highway bridges. Authority was granted for the construction of twelve farm crossings.

BRIDGES

The different railways throughout the country were authorized to construct or reconstruct forty-six bridges. Eight new bridges were inspected by the Board's engineers, and authority granted for operation. Authority was also granted for the filling in of a number of trestles.

INDUSTRIAL SPURS

Authority was granted for the construction of one hundred and eighty-two industrial spurs, varying in length from a few hundred feet to six miles, also for the removal of six spurs.

TELEPHONE AGREEMENTS

The Board's Electrical Engineer has checked over and passed on one hundred and ten telephone agreements, covering connections between rural telephone companies and the Bell Telephone Company.

RAILWAY CROSSINGS

Grade Crossings were authorized at the following points, protected by full interlocking plants:—

Montreal Tramways, by Canadian Pacific Railway at Park Avenue, Montreal, P.Q.

Grand River Railway, by Grand Trunk Railway, township of North Dumfries, Ont.

Canadian National Railways, by Canadian Pacific Railway, in Sec. 9, Tp. 29, Rge. 20, W. 4 M., Alberta.

London and Port Stanley Railway, by St. Thomas Street Railway, Talbot street, St. Thomas, Ont.

London and Port Stanley Railway, by St. Thomas Street Railway, on Elm street, St. Thomas, Ont.

London and Port Stanley Railway, by St. Thomas Street Railway, on Wilson street, St. Thomas, Ont.

Grand River Railway, by Grand Trunk Railway, at Galt, Ont.

London and Port Stanley Railway, by St. Thomas Street Railway, at Wellington street, St. Thomas, Ont.

Grand Trunk Railway, by Canadian Pacific Railway, at Whitby, Ont.

Grand Trunk Railway, by Canadian Pacific Railway, at Pinnacle street, Belleville, Ont.

Grand Trunk Railway, by Canadian Pacific Railway, at Coldwater, Ont.

Grand Trunk Railway, by Lake Erie and Northern Railway, at Galt, Ont.

Canadian Pacific Railway, by International Transit Co., at Sault Ste. Marie, Ont.

Grand Trunk Railway, by Canadian National Railways, in the township of East Gwillimbury, Ont.

Windsor, Essex and Lake Shore Rapid Railway, by Hydro-Electric Power Commission, at Windsor, Ont.

Lake Erie and Northern Railway, by Brantford Street Railway, at Morrell street, Brantford, Ont.

Vancouver, Victoria and Eastern Railway, by the Vancouver Harbour Commissioners' tracks, at False Creek, Vancouver, B.C.

Cape Breton Electric Railway, by Canadian National Railways, at Townsend street, Sydney, N.S.

Canadian Pacific Railway, by Canadian National Railways, at Trenton, Ont.

INTERCHANGE TRACKS

Plans of interchange tracks have been approved between railways as follows:—

Canadian National Railways and Canadian Pacific Railway, at Estevan, Sask.

Canadian National Railways and the Temiskaming and Northern Ontario Railway, at North Bay, Ont.

Canadian National Railways and Grand Trunk Railway, at Pembroke, Ont.

Canadian National Railways and Canadian Pacific Railway, at Fort William, Ont.

Canadian Pacific Railway and Grand Trunk Railway, in the township of Etobicoke, Ont.

Canadian National Railways and Grand Trunk Railway, in the township of Elizabethtown, Ont.

Canadian National Railways and the Grand Trunk Railway, at Washago, Ont.

Canadian Pacific Railway and the Edmonton, Dunvegan and British Columbia Railway at Edmonton, Alta.

Canadian National Railways and the Canadian Pacific Railway, at Montfort Jct., P.Q.

Edmonton and Slave Lake Railway and Grand Trunk Pacific Railway, at Union Jct., Alta.

Also plans of connecting tracks were approved at the following points:—

Canadian National Railways and National Transcontinental Railway, at St. Prosper, P.Q.

Port Haney Logging Railway and Canadian Pacific Railway, at North Bend, B.C.

Canadian National Railways and Grand Trunk Pacific Railway, in Sec. 25-26, Twp. 53, Rge. 7, W. 5 M., Alberta.

Canadian National Railways and Grand Trunk Pacific Railway, at Ryley, Alta.

Canadian National Railways and Grand Trunk Pacific Railway, near Camrose, Alta.

Canadian National Railways and Grand Trunk Pacific Railway, near Alix, Alta.

Canadian National Railways and Grand Trunk Pacific Railway, near Drumheller, Alta.

Canadian National Railways and Grand Trunk Pacific Railway, near Regina, Sask.

Canadian National Railways and Grand Trunk Pacific Railway, at Edmonton, Alta.

OPENING FOR TRAFFIC

Grand River Railway from Kerr street, Galt, Ont., to junction with main line at west city limit, 1·5 miles.

Grand River Railway, second track, Preston to Hageys, Ont.

Canadian National Railways, Luck Lake Branch. Mileage 19·75 to 28·54, Saskatchewan.

Canadian National Railways, Drumheller Subdivision. Mileage 302·6 to 315·6, Alberta.

Canadian National Railways, connection with Temiskaming and Northern Ontario Railway at North Bay, Ont.

Canadian National Railways, Hanna-Medicine Hat Branch. Mileage 0 to 58·8, Alberta.

Canadian National Railways, Moose Jaw Branch. Mileage 85·6 to 87, Saskatchewan.

Canadian Pacific Railway, Lanigan northeasterly branch. Mileage 0 to 49·34, Saskatchewan.

Canadian National Railways, second track, Drumheller Branch. Mileage 315·6 to 322·7, Alberta.

Quebec Central Railway, Scotts to Diamond Jct., P.Q.

Canadian Pacific Railway, Langdon North Branch. Mileage 38·88 to 74·29, Alberta.

Brantford Street Railway, in city of Brantford, Ont.

Canadian National Railways, Melfort Northeasterly Branch. Mileage 0 to 23·7, Saskatchewan.

Canadian Pacific Railway, St. John Subdivision, New Brunswick. Mileage 1·38 to 1·93.

Canadian National Railways, Thunderhill Branch. Mileage 72·6 to 100·3 Saskatchewan.

Canadian National Railways, Turtleford Branch. Mileage 57 to 77·8, Saskatchewan.

Canadian Northwestern Railway, Onoway Subdivision. Mileage 33·8 to 72·3, Alberta.

Canadian National Railways, Lintlaw to Kelvington. Mileage 100·3 to 114·1, Saskatchewan.

Windsor, Essex and Lake Shore Rapid Railway, in town of Kingsville, Ont.

DRAINAGE

Right of way ditching, Canadian National Railways, at Letellier, Man.

Culvert under Canadian Pacific Railway, at East Kildonan, Man.

Dyking of lands in District of Sumas, B.C., on the line of the Vancouver, Victoria and Eastern Railway and Navigation Company.

Ditching on the right of way of the Canadian Pacific Railway in Township of Thessalon, Ont.

Municipal drain in Township of Minto, Ont., under the Grand Trunk Railway.

Irrigation ditches under the Canadian Pacific Railway, near Calgary, Alta.

Slagg drain under the Grand Trunk Railway, in the township of Raleigh, Ont.

Water main under the tracks of the Esquimault and Nanaimo Railway, at Courtenay, B.C.

MISCELLANEOUS

In addition to the above, many other matters have been dealt with, some of them involving inspections, such as protection at highway crossings, fencing on railway right of way, changes in interlocking plants, improvement of view at highway crossings, filling in of trestles, subways, cableway crossings, cattle passes, ferry slips and approaches, wire crossings, etc.

I have the honour to be, sir,

Your obedient servant,

GEO. A. MOUNTAIN,
Chief Engineer.

APPENDIX "D"

REPORT OF THE CHIEF OPERATING OFFICER OF THE BOARD FOR THE YEAR ENDING DECEMBER 31, 1921

DEAR SIR,—I have the honour to submit herewith, for the Board's seventeenth annual report, a synopsis of work performed by the Operating Department during the twelve months ending December 31, 1921.

REPORTING AND INVESTIGATING OF ACCIDENTS ATTENDED BY PERSONAL INJURY OR LOSS OF LIFE

During the twelve months accidents to the number of 1,821, covering 243 persons killed and 1,928 persons injured, were reported to the Board by the various railway companies under its jurisdiction. For particulars, attention is directed to statements 1, 3 and 4.

A perusal of statements Nos. 2, 5, and 6, which are comparative statements of the killed and injured, as between passengers, employees and others; class of accident and railways, reveals a decrease of 11 persons killed and 402 persons injured over the preceding twelve months.

Out of a total of 1,821 accidents reported, as above referred to, 1,272 were investigated, covering 221 persons killed and 1,421 injured. Statements Nos. 7, 8, 9 and 10 set out in detail the investigations made as regards collisions, derailments, highway crossing accidents, also accidents the result of working on or under engines. These four statements show a total of 460 investigations covering 85 persons killed and 671 persons injured. The remainder of the investigations, which number 812, covering 136 persons killed and 705 persons injured, are spread over accidents covered by the various other headings referred to in statements Nos. 3, 4, and 5.

It will be observed that out of the total of 243 persons killed and 1,928 injured, there were trespassers to the number of 64 killed and 91 injured. In this connection reference is made to statement No. 16 which shows the number killed and injured by railways and provinces.

The matter of highway crossing accidents, protection provided, etc., is set out in detail in statements Nos. 3, 4, 5, 9, 11, 12, 13, 14 and 15.

INSPECTION OF SAFETY APPLIANCES

The work in this connection is largely carried on under the provisions of section 298 of the Act and General Order No. 102. The year's work is set out in detail in statements Nos. 19, 20, 21 A and B. It is needless to say that the inspection of 76,789 cars entails considerable time and labour, both as regards field work, and the resultant checking, recording and filing of the numerous reports, in addition to the correspondence necessary in following up with a view to having the railway companies take the necessary action to have the defects remedied. The inspection of 76,789 cars produced 4,352 defective cars (5·66 per cent) with defects totalling 4,883.

INSPECTION OF MOTIVE POWER

This division of the work embraces the entire locomotive and tender, and is carried out under sections 298, 299, 300 and 301 of the Railway Act and General Orders Nos. 12, 31, 66, 78, 102, 107, 131, 171, 199, 226, 289 and 293.

Under General Order No. 78, the so-called "Boiler Inspection Order," approximately 70,000 report forms comprising the monthly and annual inspections of locomotive boilers and appurtenances were filed during the year.

During the year locomotives to the number of 12,559 were inspected with defective engines totalling 923 (7 per cent) and total defects of 1,060. For details reference is made to statement No. 22.

The checking and recording of the above mentioned forms and reports, together with the correspondence involved, naturally creates an extensive line of work.

INSPECTION OF PASSENGER EQUIPMENT, STATION BUILDINGS AND PREMISES

This work comprises features of safety, cleanliness, accommodation, etc. A large number of matters have been brought to the attention of the proper officials with beneficial results.

APPLICATIONS AND COMPLAINTS RE TRAIN AND STATION SERVICE, HIGHWAY CROSSING PROTECTION, STATION LOCATIONS, CAR SUPPLY, ETC., ETC.

The work under this heading covers a wide range of matters, and entails, in many instances, a considerable amount of enquiry and research. During the year complaints and applications numbering in the neighbourhood of 1,300 were enquired into and reported upon.

In conclusion it might be stated that, in order to accomplish the work briefly outlined above, it has necessitated the travelling by the staff of this department, of approximately, 300,000 miles.

Yours faithfully,

G. SPENCER,

Chief Operating Officer.

A. D. CARTWRIGHT,

Secretary, B.R.C.

No. 1.—Statement Showing Number of Passengers, Employees and Others, Killed and Injured on the Various Railways in Canada, under the Board's Jurisdiction, for Year Ending December 31, 1921.

Name of Railway	Passengers		Employees		Others		Total	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
Grand Trunk		99	18	368	49	112	67	579
Canadian Pacific	3	65	37	184	67	107	107	356
Canadian National		48	29	712	18	68	47	828
Pere Marquette					1	2	1	2
Hamilton Radial						4		4
Central Vermont						1		1
Quebec Central	1					1	1	1
Na ierville Junction			2	3	3	4	5	7
Windsor Essex & Lake Shore						2		2
Montreal & Southern Counties		3						3
Oshawa						4		4
Lake Erie & Northern						4		4
Dominion Atlantic						1		1
Essex Terminal						1		1
Edmonton Dunvegan & Brit. Col.						4		4
Boston & Maine					1		1	
Niagara, St. Catharines & Toronto		9		1	3	5	3	15
Brantford & Hamilton Elec.						6		6
Michigan Central		1	1	25	2	7	3	33
Wabash				8				8
Grand River		2	1		–	4	1	6
New York Central		6		11	1	1	1	18
Great Northern		1	1	8	1		2	9
Kettle Valley		1	2	12		1	2	14
Esquimalt & Nanaimo		2				1		3
Toronto Hamilton & Buffalo		3		8	2	4	2	15
Quebec Montreal & Southern				4				4
	4	240	91	1344	148	344	243	1928

No. 2.—Comparative Statement of Killed and Injured Between Year Ending December 31, 1920, and Year Ending December 31, 1921.

	Passengers		Employees		Others		Total	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
1920	17	379	80	1,570	157	381	254	2,330
1921	4	240	91	1,344	148	344	243	1,928
Decrease	13	139		226	9	37	11	402
Increase			11					

No. 3.—STATEMENT Showing Separately the Number of Passengers, Employees and Others Killed and Injured, and the Nature of the Accidents, for Twelve Months ending December 31, 1921.

Character of Accidents	Passengers		Employees		Others		Total	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
Derailment		66	11	91	1	2	12	159
Collision head on		10	2	23			2	33
Collision rear end		5	2	20		3	2	28
Collision in yard		20	1	23			1	43
Collision with cars standing foul		9		6				15
Collision with cars account open switch		2	2	4			2	6
Collision at level (diamond) crossing		3		4				7
Public highway crossing protected by gates					5	13	5	13
Public highway crossing protected by bell					14	27	14	27
Public highway crossing protected by watchman				2	1	6	1	8
Public highway crossing unprotected				5	50	161	50	166
Private crossing				5	6	13	6	18
Trespassing				3	64	88	64	91
Working on or under engine				235				235
Miscellaneous	1	53	12	280	2	8	15	341
Adjusting couplers, coupling and uncoupling				69				69
Run down by engine or car between stations			3	5			3	5
Falling off hand car, motor or velocipede			4	88			4	88
Hand car, motor, velocipede struck by train			7	44	2	15	9	59
Crawling under cars				1				1
Crawling between cars over couplers				3				3
Passing between cars between couplers			2	3		1	2	4
Struck by car standing foul				1				1
Struck by switch stand, water spout, mail crane, etc		2	1	29			1	31
Crushed between cars, building, lumber pile, platforms, etc			1	8	1		2	8
Explosion of locomotive boiler				6				6
Falling off passenger train	3	12		6			3	18
Falling off tender while handling coal				2				2
Falling off tender while taking water				3				3
Industrial			8	34			8	34
Riding on pilot or footboard of engine			1	22			1	22
Overhead obstruction			1	10			1	10
Repairing cars on repair track when moved								
Falling off top of car			2	16	1		3	16
Falling between cars			2	7			2	7
Application of air brakes		5		66		1		72
Jumping off train in motion		39	3	24		1	3	64
Attempt to board train in motion		13	3	23		2	3	38
Washout			1	3			1	3
Bridge gave way or destroyed by fire			1	4			1	4
Electrocured								
Run down by engine or cars at stations or in yards		1	17	54	1	2	18	57
Passing too close around end of string of cars				1				1
Caught in frog, guard rail, or switch rod				4				4
Caught by engine or car throwing switch			1	4			1	4

No. 3.—STATEMENT Showing Separately the Number of Passengers, Employees and Others Killed and Injured, and the Nature of the Accidents, for Twelve Months ending December 31, 1921—*Concluded.*

Character of Accidents	Passengers		Employees		Others		Total	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
Falling off side and end ladders of car	.....	.....	.....	18	.....	.....	.....	18
Falling off car while working hand brake	.....	.....	1	22	.....	.....	1	22
Asphyxiated in tunnel	.....	.....	.....	.....	.....	.....	.....	.....
Handling freight and baggage	.....	.....	.....	17	.....	.....	.....	17
Loading and unloading O.C.S. material	.....	.....	.....	20	.....	.....	.....	20
Staking or poling cars	.....	.....	.....	2	.....	.....	.....	2
Working in coal chute	.....	.....	.....	1	.....	.....	.....	1
Cars moved while being loaded or unloaded	.....	.....	.....	4	.....	1	.....	5
Drawbridge open	.....	.....	.....	.....	.....	.....	.....	.....
Carmen working on or under cars on running track when moved	.....	.....	.....	2	.....	.....	.....	2
Chaining and unchaining cars	.....	.....	.....	.....	.....	.....	.....	.....
Coupling and uncoupling hose and turning angle cock	.....	.....	2	17	.....	.....	2	17
	4	240	91	1,344	148	344	243	1,928

No. 4.—STATEMENT Showing the Character of Accidents Sustained by the Persons Killed and Injured on the Various Railways under the Jurisdiction of the Board for Twelve Months ending December 31, 1921.

	G.T.R.		C.P.R.		C.N.R.		P.M.R.		Ham. Radial		C.V.R.		Q.C.R.		Nap. Jct.		W.E. & L.S		M. & S.C.	
	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.
Derailment	4	32	2	52	5	75														
Collision head on		3		14	2	16														
Collision rear end		2		10	2	16														
Collision in yard	1	23		6		12														
Collision with cars standing foul						5														
Collision with cars account open switch		5													2	1				
Collision at level (diamond) crossing		7																		
Public highway crossing protected by gates	3	7	2	6																
Public highway crossing protected by bell	9	7	4	17																
Public highway crossing protected by watchman	1	6		2																
Public highway crossing unprotected	20	48	18	50	4	30	1	2		4		1		1	3	4				
Private crossing	3	2	1	8	2	6												2		
Trespassing	12	33	37	27	12	23														
Working on or under engine		81		20		122														
Miscellaneous		139	10	11	4	161														
Adjusting couplers, coupling and uncoupling		29		11		25														
Run down by engine or car between stations	1			3	1	1														
Falling off hand car, motor or velocipede		1	3	13	1	70														
Hand car, motor or velocipede struck by train	2	3	4	7	3	42														
Crawling under cars				1																
Crawling between cars over couplers		1				2														
Passing between cars between couplers	1		1	3		1														
Struck by cars standing foul						1														
Struck by switch stand, water spout, mail crane, etc.	1	12		4		12														2
Crushed between cars, building, lumber pile, platforms, etc.		1	2	4		3														
Explosion of locomotive boiler				5		1														
Falling off passenger train		9	2	3		4							1							
Falling off tender while handling coal		1				1														
Falling off tender while taking water		3																		
Industrial			5	1	2	30										1				
Riding on pilot or footboard of engine		5		3	1	12														
Overhead obstruction		8			1	1														
Repairing cars on repair track when moved																				
Falling off top of car		2	1	4	1	9														
Falling between cars	1		1	3		3														
Application of air brake		19		16		30														
Jumping off train in motion	1	21	1	14		22														1
Attempt to board train in motion		8	1	15	2	13														
Washout			1	1		2														
Bridge gave way or destroyed by fire				3	1	1														
Electrocuted																				
Run down by engine or cars at stations or in yards	6	30	9	8	2	14														
Passing too close around end of string of cars																				
Caught in frog, guard rail or switch rod						2														
Caught by engine or car throwing switch		3	1			1														
Falling off side and end ladders of cars		7		1		9														

Falling off car while working hand brake	1	9		4		8														
Asphyxiated in tunnel																				
Handling freight and baggage		3		1		11										1				
Loading and unloading O.C.S. material						19														
Staking or poling cars		1				1														
Working in coal chute						1														
Cars moved while being loaded or unloaded		3		2																
Drawbridge open																				
Carmen working on or under cars on running track when moved				1		1														
Chaining and unchaining cars																				
Coupling and uncoupling hose and turning angle cock		5	1	2	1	9														
	67	579	107	356	47	828	1	2		4		1	1	1	5	7		2		3

No. 4.—Statement Showing the Character of Accidents Sustained by the Persons Killed and Injured on the Various Railways under the Jurisdiction of the Board for Twelve Months ending December 31, 1921.—*Continued.*

—	Oshawa		L.E. & N.		D.A.R.		Essex Terminal		E. D. & B.C.		B. & M.		N. St. C. & T.		B. & H. Elec.		M.C.R.	
	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.
Derailment													1					
Collision head on																		
Collision rear end																		
Collision in yard																		2
Collision with cars standing foul														10				
Collision with cars account open switch																		
Collision at level (diamond) crossing																		
Public highway crossing protected by gates																		
Public highway crossing protected by bell													1					2
Public highway crossing protected by watchman																		
Public highway crossing unprotected		4		4							1			3		6	2	4
Private crossing																		
Trespassing						1		1						1				1
Working on or under engine																		
Miscellaneous																		8
Adjusting couplers, coupling and uncoupling																		1
Run down by engine or car between stations																		1
Falling off hand car, motor, or velocipede																		3
Hand car, motor or velocipede struck by train										4								2
Crawling under cars																		
Crawling between cars over couplers																		
Passing between cars between couplers																		
Struck by car standing foul																		
Struck by switch stand, water spout, mail crane, etc.																		
Crushed between cars, building, lumber pile, platforms, etc.																		
Explosion of locomotive boiler																		
Falling off passenger train																		
Falling off tender while handling coal																		
Falling off tender while taking water																		
Industrial																		1
Riding on pilot or footboard of engine																		
Overhead obstruction																		
Repairing cars on repair track when moved																		
Falling off top of car																		
Falling between cars																		3
Application of air brake																	1	
Jumping off train in motion																		1
Attempt to board train in motion																		
Washout																		
Bridge gave way or destroyed by fire																		
Electrocuted													1	1				
Run down by engine or cars at stations or in yards																		1
Passing too close around end of string of cars																		1
Caught in frog, guard rail or switch rod																		
Caught by engine or car throwing switch																		1
Falling off side and end ladders of car																		1
Falling off car while working hand brake																		

Asphyxiated in tunnel																		
Handling freight and baggage																		
Loading and unloading O.C.S. material																		
Staking or poling cars																		
Working in coal chute																		
Cars moved while being loaded or unloaded																		
Drawbridge open																		
Carmen working on or under cars on running track when moved																		
Chaining and unchaining cars																		
Coupling and uncoupling hose and turning angle cock																		
		4		4		1		1		4	1		3	15		6	3	33

No. 4.—STATEMENT Showing the Character of Accidents Sustained by the Persons Killed and Injured on the Various Railways under the Jurisdiction of the Board for Twelve Months ending December 31, 1921.—*Continued.*

	Wabash		Grand River		N.Y.C.		G.N.R.		K.V.R.		E. & N.		T.H. & B.		Q.M. & S.		Total	
	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.
Derailment																	12	159
Collision head on																	2	33
Collision rear end																	2	28
Collision in yard																	1	43
Collision with cars standing foul																		15
Collision with cars account open switch																	2	6
Collision at level (diamond) crossing																		7
Public highway crossing protected by gates																	5	13
Public highway crossing protected by bell														1			14	27
Public highway crossing protected by watchman																	1	8
Public highway crossing unprotected				1								1	1	3			50	166
Private crossing																	6	18
Trespassing				2	1	1	1			1			1				64	91
Working on or under engine		4				1		2		4				1				235
Miscellaneous		1		1		7		4	1	5				2		2	15	341
Adjusting couplers, coupling and uncoupling						1								1		1		69
Run down by engine or car between stations							1										3	5
Falling off hand car, motor or velocipede										1							4	88
Hand car, motor or velocipede struck by train								1									9	59
Crawling under cars																		1
Crawling between cars over couplers																		3
Passing between cars between couplers																	2	4
Struck by cars standing foul																		1
Struck by switch stand, water spout, mail crane, etc.														1			1	31
Crushed between cars, building, lumber pile, platforms, etc.																	2	8
Explosion of locomotive boiler																		6
Falling off passenger train						2											3	18
Falling off tender while handling coal																		2
Falling off tender while taking water																		3
Industrial									1	2							8	34
Riding on pilot or footboard of engine								1									1	22
Overhead obstruction						1											1	10
Repairing cars on repair track when moved																		
Falling off top of car		1	1														3	16
Falling between cars														1			2	7
Application of air brake		1				2				1								72
Jumping off train in motion				1								2		3			3	64
Attempt to board train in motion				1													3	38
Washout																	1	3
Bridge gave way or destroyed by fire																	1	4
Electrocuted																		
Run down by engine or cars at stations or in yards		1				1								1		1	18	57
Passing too close around end of string of cars																		1
Caught in frog, guard rail or switch rod														1				4
Caught by engine or car throwing switch																	1	4
Falling off side and end ladders of cars																		18
Falling off car while working hand brake																	1	22

Asphyxiated in tunnel																		
Handling freight and baggage						1												17
Loading and unloading O.C.S. material								1										20
Staking or poling cars																		2
Working in coal chute																		1
Cars moved while being loaded or unloaded																		5
Drawbridge open																		
Carmen working on or under cars on running track when moved																		2
Chaining and unchaining cars																		
Coupling and uncoupling hose and turning angle cock						1											2	17
		8	1	6	1	18	2	9	2	14		3	2	15		4	243	1,928

No. 5.—Comparative Statement in Totals of Killed and Injured by Class of Accident Between Year Ending December 31, 1920, and Year Ending December 31, 1921.

Character of Accidents	1920		1921		1921			
					Increase		Decrease	
	K.	I.	K.	I.	K.	I.	K.	I.
Derailment	11	316	12	159	1			157
Collision, head on		66	2	33	2			33
Collision, rear end	14	58	2	28			12	30
Collision in yard	2	45	1	43			1	2
Collision with cars standing foul		4		15		11		
Collision with cars account open switch		21	2	6	2			15
Collision at level (diamond) crossing		4		7		3		
Public highway crossing protected by gates	6	14	5	13			1	1
Public highway crossing protected by bell	6	29	14	27	8			2
Public highway crossing protected by watchman	4	8	1	8			3	
Public highway crossing unprotected	52	164	50	166		2	2	
Private crossing	2	10	6	18	4	8		
Trespassing	73	120	64	91			9	29
Working on or under engine	3	232		235		3	3	
Miscellaneous	7	376	15	341	8			35
Adjusting couplers, coupling and uncoupling	6	101		69			6	32
Run down by engine or car between stations	9	8	3	5			6	3
Falling off hand car, motor or velocipede	1	49	4	88	3	39		
Hand car, motor, velocipede struck by train	6	44	9	59	3	15		
Crawling under cars		1		1				
Crawling between cars over couplers	2	8		3			2	5
Passing between cars between couplers	2	3	2	4		1		
Struck by car standing foul		10		1				9
Struck by switch stand, water spout, mail crane, etc.		43	1	31	1			12
Crushed between cars, building, lumber pile, platforms, etc.		16	2	8	2			8
Explosion of locomotive boiler				6		6		
Falling off passenger train	3	24	3	18				6
Falling off tender while handling coal		2		2				
Falling off tender while taking water		9		3				6
Industrial	2	58	8	34	6			24
Riding on pilot or footboard of engine	2	16	1	22		6	1	
Overhead obstruction		3	1	10	1	7		
Repairing cars on repair track when moved								
Falling off top of car	3	33	3	16				17
Falling between cars	3	2	2	7		5	1	
Application of air brake		53		72		19		
Jumping off train in motion	4	62	3	64		2	1	
Attempt to board train in motion		57	3	38	3			19
Washout	1	2	1	3		1		
Bridge gave way or destroyed by fire	1	2	1	4		2		
Electrocuted								
Run down by engine or cars at stations or in yards	26	76	18	57			8	19
Passing too close around end of string of cars				1		1		
Caught in frog, guard rail, or switch rod		3		4		1		
Caught by engine or car throwing switch		4	1	4	1			
Falling off side and end ladders of car		23		18				5
Falling off car while working hand brake	2	29	1	22			1	7
Asphyxiated in tunnel								
Handling freight and baggage		33		17				16
Loading and unloading O.C.S. material		36		20				16
Staking or poling cars		1		2		1		
Working in coal chute		8		1				7
Cars moved while being loaded or unloaded		15		5				10
Drawbridge open								
Carmen working on or under cars on running track when moved		16		2				14
Chaining and unchaining cars		1						1
Coupling and uncoupling hose and turning angle cock	1	12	2	17	1	5		
	254	2,330	243	1,928	46	138	57	540
Decrease	243	1,928					46	138
	11	402					11	402

No. 6.—Comparative Statement in Totals of Killed and Injured Between Year Ending December 31, 1920, and Year Ending December 31, 1921.

	1920		1921		1921			
					Increase		Decrease	
	K.	I.	K.	I.	K.	I.	K.	I.
Grand Trunk	70	866	67	579	.....	.....	3	287
Canadian Pacific	110	509	107	356	.....	.....	3	153
Canadian National	43	732	47	828	4	96	.....	.....
Père Marquette	.....	8	1	2	1	.....	.....	6
Hamilton Radial	2	9	.....	4	.....	.....	2	5
Central Vermont	.....	3	.....	1	.....	.....	.....	2
Quebec Central	.....	.....	1	1	1	1	.....	.....
Napierville Junction	4	2	5	7	1	5	.....	.....
Windsor Essex and Lake Shore	.....	2	.....	2	.....	.....	.....	.....
Montreal and Southern Counties	.....	2	.....	3	.....	1	.....	.....
Oshawa	.....	.....	.....	4	.....	4	.....	.....
Lake Erie and Northern	.....	5	.....	4	.....	.....	.....	1
Dominion Atlantic	1	3	.....	1	.....	.....	1	2
Essex Terminal	.....	.....	.....	1	.....	1	.....	.....
Edmonton, Dunvegan and British Columbia	.....	.....	.....	4	.....	4	.....	.....
Boston and Maine	.....	.....	1	.....	1	.....	.....	.....
Niagara, St. Catharines and Toronto	.....	.....	3	15	3	15	.....	.....
Brantford and Hamilton Electric	3	5	.....	6	.....	1	3	.....
Michigan Central	7	37	3	33	.....	.....	4	4
Wabash	.....	10	.....	8	.....	.....	.....	2
Grand River	.....	5	1	6	1	1	.....	.....
New York Central	.....	10	1	18	1	8	.....	.....
Great Northern	.....	.....	2	9	2	9	.....	.....
Kettle Valley	1	13	2	14	1	1	.....	.....
Esquimalt and Nanaimo	1	5	.....	3	.....	.....	1	2
Toronto, Hamilton and Buffalo	1	16	2	15	1	.....	.....	1
Quebec, Montreal and Southern	1	14	.....	4	.....	.....	1	10
†Grand Trunk Pacific	6	30	.....	.....	.....	.....	6	30
Algoma Central and Hudson Bay	.....	1	.....	.....	.....	.....	.....	1
*Vancouver, Victoria and Eastern	.....	38	.....	.....	.....	.....	.....	38
Maine Central	1	.....	.....	.....	.....	.....	1	.....
British Columbia Electric	1	1	.....	.....	.....	.....	1	1
Hull Electric	1	1	.....	.....	.....	.....	1	1
Algoma Eastern	.....	1	.....	.....	.....	.....	.....	1
Quebec Oriental	1	1	.....	.....	.....	.....	1	1
Midland	.....	1	.....	.....	.....	.....	.....	1
	254	2,330	243	1,928	17	147	28	549
Decrease	243	1,928	.....	.....	.....	.....	17	147
	11	402					11	402

Note.—†Now consolidated with Canadian National Railways.
*Now consolidated with Great Northern Railway.

No. 7.—Statement Showing Collisions Attended by Personal Injury Investigated During the Year Ending December 31, 1921.

File	Date	Railway	Place	Killed	Injured
Inv. 9608	Dec. 23	C.P.R.	Forks, Ont., M.P. 33, Nemegos Subdivision		2
" 9612	Dec. 27	C.N.R.	Dauphin, Man., M.P. 76·8		1
" 9632	Dec. 18	G.T.R.	Windsor, Ont		4
" 9642	Dec. 23	C.P.R.	Calgary, Alta		3
" 9692	Dec. 29	C.N.R.	Rivers Yard, Man		5
" 9693	Dec. 22	C.N.R.	Munson Yard, Alta		2
" 9704	Jan. 1	C.N.R.	Turtle, Ont	2	2
" 9705	Dec. 17	C.N.R.	Ste. Anne, Man		6
" 9706	Dec. 3	C.N.R.	Drumheller Yard, Alta	1	2
" 9742	Dec. 15	G.T.R. & Mtl. trams	Turcot, Que		3
" 9771	Jan. 21	C.N.R.	Oakner, Man		2
" 9792	Feb. 5	C.P.R.	Farnham Yard, Que		2
" 9796	Feb. 16	C.P.R.	Winnipeg, Man		1
" 9826	Jan. 17	C.N.R.	North Bay, Ont		1
" 9830	Feb. 3	G.T.R.	Stoney Creek, Ont		1
" 9863	Feb. 16	C.N.R.	Welby, Sask		1
" 9873	Feb. 15	G.T.R. & B.S. Ry.	Brantford, Ont		3
" 9899	Mar. 2	C.N.R.	Oba, Ont., 19 poles West of M.P. 40		4
" 9902	Mar. 17	C.P.R.	Deux Rivières, Ont		14
" 9915	Feb. 17	G.T.R.	Plessisville, Que		1
" 9959	Mar. 28	C.N.R.	Brent Yard, Ont., Pembroke Subdivision		5
" 9970	Apr. 1	G.T.R.	Barrie Station, Ont., just south		18
" 9975	Mar. 18	C.N.R.	Bedford, Man., 10 poles west of M.P. 384		2
" 10002	Feb. 12	C.P.R.	Near Connaught, B.C., M.P. 79		2
" 10010	Apr. 16	G.T.R.	Montreal, Pt. St. Charles, Que		1
" 10048	Apr. 7	C.N.R.	Chinook, Alta., 2·3 miles east	1	
" 10075	Apr. 22	C.N.R.	Mead, Sask		5
" 10077	May 3	M.C.R.	Victoria Yard, Ont		1
" 10080	May 14	N.St.C. & T.	Thorold, Oat., Pine Street		10
" 10122	May 21	G.T.R.	Kingston Jct., Ont., M.P. 171 East		1
" 10124	May 29	M.C.R.	Windsor, Ont		1
" 10186	Apr. 28	Q.M. & S.	St. Hyacinthe Yard, Que	1	
" 10188	Mar. 28	C.N.R.	Edmonton Yard, Alta		1
" 10222	July 1	G.T.R.	Newbury Yard, Ont		1
" 10235	June 29	G.T.R.	Clarksons, Ont		1
" 10253	July 8	C.N.R.	Capreol Yard, Ont		1
" 10256	July 15	G.T.R.	London East, Ont		1
" 10263	July 4	N.J.R.	Napierville Jct., Que	2	1
" 10392	Aug. 27	G.T.R.	Sarnia ,Ont., near Plank Road Crossing		3
" 10403	Aug. 22	C.N.R.	Southwood, Ont		1
" 10426	July 6	G.T.R.	Ottawa, Ont., near Bank Street		1
" 10480	Aug. 2	C.N.R.	Big Valley Yard, Alta		1
" 10506	Sept. 4	C.N.R.	Saskatoon Yard, Sask		1
" 10524	Sept. 22	C.N.R.	Winnipeg, Man., House Lead		1
" 10588	Sept. 30	C.P.R.	Tay, Ont		4
" 10618	Oct. 1	G.T.R.	Junction Cut, Ont		1
" 10653	Oct. 17	C.N.R.	Near St. Charles, Man	1	1
" 10682	Oct. 16	C.N.R.	Rainy River Yard, Ont., West side		3
" 10684	Oct. 19	C.N.R.	Brandon Jct., Man		3
" 10740	Aug. 15	C.P.R.	6 poles west of M.P. 5, White River Subdivision, Ont		3
" 10776	Nov. 2	C.N.R.	Near Kindersley, Sask		1
" 10830	Dec. 2	G.T.R.	Oro, Oat		1
" 10846	Dec. 9	C.P.R.	Imperial Yard, Sask		2
Total....53				8	139

No. 8.—STATEMENT Showing Derailments Attended by Personal Injury Investigated During the Year Ending December 31, 1921.

File	Date	Railway	Place	Killed	Injured
Inv. 9589	Nov. 24	G.T.R.	Three-quarters of a mile west of Toronto, Ont.		3
" 9620	Dec. 11	C.P.R.	McAdam Jct., Yard, N.B.		2
" 9646	Dec. 4	C.P.R.	Kirkella, Man.		7
" 9655	Dec. 29	C.N.R.	Kinghorn, Ont., Mile 137, Long Lake Subdivision		1
" 9658	Dec. 1	C.N.R.	Jellicoe Yard, Ont		1
" 9707	Jan. 24	C.P.R.	Douglas, Ont., M.P. 9·5, Eganville Subdivision		1
" 9741	Jan. 18	G.T.R.	Southwork, Que. (Montreal)		1
" 9761	Feb. 2	G.T.R.	Beachville, Ont.		1
" 9797	Feb. 16	C.P.R.	Domain, Man.		2
" 9875	Feb. 12	C.N.R.	Big Valley Yard, Alta.		1
" 9889	Feb. 21	C.N.R.	Bissell, Alta., 5 poles east		8
" 9891	Feb. 7	C.N.R.	Fairlock, Ont		1
" 9892	Jan. 31	C.N.R.	Erith, Alta., M.P. 8·5, Lovett Subdivision		11
" 9898	Mar. 1	C.N.R.	Agate, Ont., 3 miles west		1
" 9916	Feb. 28	G.T.R.	Montreal, Pt. St. Charles, Que	1	
" 9926	Mar. 21	C.P.R.	Bradwardine, Man		1
" 9956	Mar. 19	C.N.R.	M.P. 76, Chester Subdivision		1
" 9957	Mar. 1	C.N.R.	Bourg Louis, Que.		3
" 9983	Mar. 26	C.P.R.	Sintaluta, Sask, 2·5 miles west		5
" 9984	Apr. 14	C.P.R.	Near Macklin, Alta., M.P. 65		5
" 10004	Feb. 6	C.N.R.	Near Boothroyd, B.C., M.P. 113·7, Boston Bar Subdivision		3
" 10013	Apr. 30	C.N.R.	Ackray, Ont., 3·2 miles east		1
" 10031	Apr. 18	C.N.R.	Brandon, Man., M.P. 80·5, Kipling Subdivision		1
" 10036	Apr. 4	C.N.R.	Drumheller, Alta., M.P. 36·3, Drumheller Sub.		1
" 10039	Feb. 10	C.N.R.	Butze, Alta.		1
" 10040	Mar. 9	C.N.R.	Near Heffley, Alta., M.P.127, Clearwater Subdivision		3
" 10055	Apr. 14	C.P.R.	M.P. 64, Three Rivers Subdivision, Que.		1
" 10058	Apr. 21	C.P.R.	Wynyard Subdivision, M.P. 104, Alta.		18
" 10068	May 12	C.P.R.	St. Bathelemy, Que., one-half mile east		3
" 10113	May 29	C.P.R.	Lachine Canal, South Bank Branch, Que	2	
" 10117	May 18	C.N.R.	Regina, Sask., C.P.R. transfer		1
" 10119	May 21	G.T.R.	Campbellford, Ont., 3 miles east		1
" 10125	June 6	G.T.R.	St. Pauls, Ont., 2 miles east		1
" 10136	June 4	G.T.R.	Sherks, Ont., three-quarters of a mile east	1	6
" 10148	Mar. 24	C.N.R.	Grant Brook, B.C.		2
" 10154	Apr. 29	C.N.R.	M.P. 48·5, Clearwater Subdivision, B.C.		2
" 10155	Apr. 22	C.N.R.	M.P. 1687·4, Skeena Subdivision, B.C.		2
" 10179	June 2	C.N.R.	Near Shaw, Alta.		1
" 10187	June 14	G.T.R.	Nelles Corners, Ont., one mile west		6
" 10232	June 14	C.P.R.	Kylemore, Sask	1	1
" 10238	June 25	C.N.R.	Near Kelso, Sask		1
" 10273	July 21	C.N.R.	Kukatush, Ont		1
" 10288	July 13	G.T.R.	Madoc Jct., Ont., one-quarter mile west	1	2
" 10292	June 25	G.T.R.	Reaboro, Ont., three-quarters of a mile west		2
" 10310	July 9	C.N.R.	Near Cadomin, Alta.		3
" 10372	Aug. 28	C.P.R.	Rutter, Ont., one mile south		10
" 10404	Aug. 31	N. St. C. & T.	St. Catharines, Ont., between Queenston and Calm Sts.	1	
" 10439	Sept. 13	C.N.R.	Near Shilo, Man.		2
" 10440	Sept. 14	C.N.R.	Yarker, Ont.		1
" 10445	Aug. 2	C.N.R.	Shaw, B.C., M.P. 7·5, Mountain Park Subdivision		1
" 10476	Aug. 13	C.P.R.	M.P. 104, Coronation Subdivision, Alta.		3
" 10488	Aug. 8	G.T.R.	Glenco, Ont., three-quarters of a mile east		1
" 10523	Sept. 20	G.T.R.	Stamford, Ont., three miles west		1
" 10544	Oct. 2	C.P.R.	Grand Coules, Sask.		1
" 10591	Oct. 11	G.T.R.	Dorevay, Ont., 10 poles north M.P. 7		7
" 10592	Sept. 21	C.N.R.	Anerley, Sask., M.P. 93, Elrose Subdivision		1
" 10603	Oct. 14	G.T.R.	Chesley, Ont., one mile north		2
" 10610	Sept. 19	C.N.R.	Martel, B.C.		1
" 10657	Oct. 22	C.P.R.	Chaplin Yard, Sask.		1
" 10661	Nov. 5	C.P.R.	Pocalogan, N.B., three-quarter mile west		3
" 10673	Oct. 26	G.T.R.	London, Ont., west end of No. 2 racecourse		1
" 10723	Oct. 16	C.N.R.	Dufresne, Man., M.P. 416 Sprague Subdivision		3
" 10734	Nov. 2	C.N.R.	Geikie, Alta	1	
" 10770	Nov. 11	C.N.R.	Plumas, Man.		2
" 10771	Oct. 21	C.N.R.	Near Venn, Sask.		1
" 10794	Oct. 11	C.N.R.	Near Saunders, Alta.		1
" 10800	Nov. 27	C.N.R.	Near Muir, Man.		6
" 10845	Dec. 19	C.P.R.	Bridge 89·22, Neudorf Subdivision		2
Total..68				8	171

No. 9.—Statement Showing Highway Crossing Accidents Attended by Personal Injury Investigated During the Year Ending December 31, 1921.

File	Date	Time	Railway	Place	Killed	Injured	Protection	Remarks
Inv. 9586	Dec. 16	1.17 p.m.	G.T.R.	St. Marys, Ont., Elgin street		1	Bell	Automobile
" 9587	Dec. 4	9.10 a.m.	C.P.R.	Galt, Ont., Clyde road	1	–	Unprotected	Automobile
" 9590	Nov. 11	8.55 a.m.	G.T.R.	Clinton, Ont., London road crossing	–	1	Unprotected	Horse and rig
" 9591	Dec. 17	2.10 p.m.	G.T.R.	Guelph, Ont., Glasgow street crossing	–	1	Unprotected	Automobile
" 9593	Dec. 14	9.37 a.m.	C.P.R.	Quebec, Que., Crown street crossing	–	1	Gates	Pedestrian
" 9594	Dec. 6	.....	C.P.R.	Lachute, Que., Princess St., Third crossing west	–	1	Bell	Horse and rig
" 9614	Dec. 23	1.15 p.m.	H.R.E.	Oakville, Ont., Randall street crossing	–	1	Unprotected	Automobile
" 9622	Dec. 16	8.12 p.m.	C.N.R.	Fort Saskatchewan, Sask., Ross street crossing	–	1	Unprotected	Automobile
" 9624	Dec. 15	4.30 p.m.	T.G.R.	Toronto, Ont., Eglington avenue	–	1	Bell	Automobile
" 9626	Jan. 1	10.55 a.m.	G.T.R.	Elia, Ont., 11th Dist., first public road crossing south	1	2	Unprotected	Automobile
" 9627	Jan. 4	9.15 a.m.	C.P.R.	Toronto, Ont., Mill street crossing	–	1	Unprotected	Motor truck
" 9630	Oct. 18	1.55 p.m.	C.N.R.	Kelwood, Man., first crossing south	–	1	Unprotected	Automobile
" 9636	Jan. 4	7.15 a.m.	C.P.R.	Islington Ont., Dundas street crossing	–	1	Unprotected	Motor truck
" 9643	Dec. 22	5.15 p.m.	C.P.R.	Coleman, Alta., crossing at east end of yard	1	–	Unprotected	Pedestrian
" 9647	Nov. 28	8.45 p.m.	C.P.R.	Carberry, Man., first crossing west	–	1	Unprotected	Automobile
" 9648	Oct. 23	8.45 a.m.	C.N.R.	Martinville, Man., crossing west of west switch	–	1	Unprotected	Automobile
" 9663	Jan. 5	11.20 p.m.	G.T.R.	Hamilton, Ont., Lottridge street	1	1	Unprotected	Automobile
" 9672	Jan. 6	5.00 p.m.	G.T.R.	Thamesville, Ont., first crossing east	1	–	Bell	Automobile
" 9677	Dec. 15	2.47 p.m.	G.T.R.	Colborne, Ont., Ontario street, first crossing west	–	1	Unprotected	Automobile
" 9679	Dec. 30	12.09 p.m.	G.T.R.	Peterboro, Ont., George street	–	1	Unprotected	Pedestrian
" 9680	Nov. 8	12.55 a.m.	C.N.R.	Barwick, Ont., first crossing east	1	–	Unprotected	Pedestrian
" 9681	Nov. 9	6.35 a.m.	C.P.R..	Port Arthur, Ont., Manitou street	1	–	Unprotected	Pedestrian
" 9687	Jan. 5	1.40 p.m.	C.P.R.	Nanton, Alta., Marshall street, first crossing north	–	1	Unprotected	Automobile
" 9689	Oct. 7	3.00 p.m.	C.N.R.	Lashburn, Alta., crossing east of station	–	1	Unprotected	Pedestrian
" 9690	Jan. 6	4.50 p.m.	C.N.R.	Harrowsmith, Ont., crossing 1½ miles west	–	2	Unprotected	Horse and rig
" 9695	Jan. 7	10.00 a.m.	C.P.R.	Mile ·09, Que., crossing known as Cap St. Martin, Three Rivers sub	–	2	Bell	Horse and rig
" 9697	Jan. 18	11.10 a.m.	G.T.R.	Ottawa, Ont., Rochester street	1	–	Bell	Pedestrian
" 9698	Dec. 23	9.45 a.m.	T. H. & B.	Summit Station, Ont., Second road crossing N-E	–	1	Unprotected	Motor truck
" 9710	Jan. 15	6.50 p.m.	C.P.R	Renfrew, Ont., Hall street	1	–	Unprotected	Horse and rig
" 9718	Jan. 24	4.15 p.m.	C.P.R.	Toronto, Don, Ont., Eastern avenue crossing	–	1	Gates	Motor truck
" 9734	Jan. 27	7.05 a.m.	G.T.R.	Niagara Falls, Ont., Stone road crossing	–	2	Unprotected	Motor truck
" 9736	Jan. 27	4.23 p.m.	G.T.R.	Mimico, Ont., Kipling Avenue	–	2	Watchman	Automobile
" 9753	Jan. 9	10.22 a.m.	C.P.R.	Sturgeon Falls, Ont., Nipissing street	1	1	Unprotected	Horse and cutter
" 9775	Jan. 11	.....	C.P.R.	Stickney, N.B., crossing one mile north	–	1	Unprotected	Horse and rig
" 9779	Jan. 24	4.00 p.m.	C.N.R.	Schater, Man., crossing east of	–	1	Unprotected	Horse and sleigh
" 9790	Jan. 24	12.04 p.m.	C.N.R.	Rockland, Ont., public crossing east	–	1	Unprotected	Pedestrian
" 9798	Feb. 19	9.20 a.m.	C.P.R.	Carleton Place, Ont., Franktown road crossing	–	5	Bell	Automobile
" 9814	Feb. 2	10.20 a.m.	G.T.R.	Rockwood, Ont., first crossing one mile east	–	1	Unprotected	Horse and rig
" 9815	Feb. 3	4.45 p.m.	G.T.R.	Beaverton, Ont., crossing just west	–	1	Unprotected	Automobile

"	9820	Feb. 25	1.15 p.m.	G.T.R.	Victoria Harbour, Ont., Lake shore crossing	–	2	Unprotected	Automobile
"	9831	Jan. 6	11.35 a.m.	C.P.R.	Rosetown, Sask., first crossing north	–	1	Unprotected	Automobile
"	9832	Dec. 23	9.10 a.m.	C.P.R.	Wilcox, Sask., first crossing north	–	1	Unprotected	Horse and rig
"	9833	Jan. 15	.....	C.P.R.	Tramping Lake, Man., first crossing north	–	1	Unprotected	Horse and rig
"	9834	Feb. 12	11.19 a.m.	T.H. & B.	Silverdale, Ont., first crossing east	1	–	Unprotected	Horse and rig
"	9835	Feb. 17	11.25 a.m.	C.N.R.	Stalwart, Sask., first crossing north	–	1	Unprotected	Horse and rig
"	9841	Mar. 7	2.05 p.m.	C.N.R.	Beachburg, Ont., Government road crossing	1	–	Unprotected	Horse and sleigh
"	9851	Jan. 26	5.25 p.m.	C.N.R.	Regina, Sask., Eighth avenue crossing	–	1	Unprotected	Automobile
"	9857	Feb. 4	2.00 p.m.	C.P.R.	Winnipeg, Man., Selkirk avenue	–	2	Watchman	Motor truck
"	9864	Mar. 2	4.55 p.m.	B. & H.E.	Hamilton, Ont., High street crossing	–	1	Unprotected	Pedestrian
"	9865	Feb. 19	4.03 p.m.	C.P.R.	Lachute, Que., Princess street crossing	1	1	Bell	Horse and sleigh
"	9870	Jan. 29	7.15 a.m.	C.N.R.	Regina, Sask., Seventh avenue rossing	1	–	Unprotected	Auto truck
"	9871	Feb. 18	4.00 p.m.	C.N.R.	Fort Frances, Ont., Victoria avenue	–	1	Unprotected	Horse and sleigh
"	9903	Mar. 24	5.21 p.m.	G.T.R...	Beaconsfield, Que., first crossing east	1	–	Unprotected	Automobile
"	9914	Mar. 1	12.45 p.m.	G.T.R.	Montreal, Richmond street crossing	–	1	Gates	Pedestrian
"	9929	Mar. 24	1.18 p.m.	M.C.R.	Tillsonburg, Ont., second crossing west	–	1	Unprotected	Automobile
"	9976	Feb. 9	9.30 a.m.	C.N.R.	Ericksdale, Man., crossing 4·2 miles north	–	1	Unprotected	Horse and cutter
"	9990	Mar. 26	11.10 a.m.	C.P.R.	West Toronto, Ont., Weston road crossing	–	1	Gates.....	Pedestrian
"	10016	April 26	11.15 a.m.	G.T.R.	Lynden, Ont., crossing just east of station	–	1	Bell	Pedestrian
"	10023	Mar. 26	4.45 a.m.	G.T.R.	Hamilton, Ont., Beach road crossing	–	1	Unprotected	Automobile
"	10024	April 8	3.45 p.m.	G.T.R.	Toronto, Ont., Cherry street	–	1	Watchman..	Motor truck
"	10025	April 24	3.45 p.m.	G.T.R.	Casselman, Ont., First street crossing	–	1	Unprotected	Pedestrian
"	10049	April 6	11.35 a.m.	C.P.R.	Calgary, Alta., Eleventh street east	–	1	Unprotected	Horse and rig
"	10050	April 6	10.15 a.m.	C.P.R.	Calgary, Alta., crossing in Alyth yard	–	3	Unprotected	Motor truck
"	10057	May 10	11.03 p.m.	G.T.R.	Lacolle, Que., King Edward Highway, west end	–	3	Unprotected	Automobile
"	10062	May 14	6.05 p.m.	G.T.R.	London, Ont., Hale street	1	–	Bell	Pedestrian
"	10074	April 21	9.45 p.m.	N.J.R.	Lacolle, Que., first crossing, 1½ miles north	3	3	Unprotected	Automobile
"	10078	May 5	1.30 p.m.	C.P.R.	Foxwarren, Man., public crossing half-mile east	–	1	Unprotected	Automobile
"	10095	May 21	4.05 p.m.	C.P.R...	Streetsville, Ont., Queen street crossing	–	1	Bell	Motor truck
"	10097	May 29	2.19 p.m.	G.T.R.	Galt, Ont., Preston road crossing	–	1	Unprotected	Automobile
"	10100	May 6	7.40 a.m.	G.T.R.	Charny, Que., Fontain crossing	–	2	Unprotected	Horse and rig
"	10108	June 4	10.45 a.m.	G.T.R.	Craigvale, Ont., first crossing south	2	–	Unprotected	Automobile
"	10110	May 31	2.05 p.m.	G.T.R.	Montreal, Que., Decourcelles street	1	–	Gates	Pedestrian
"	10120	May 30	9.55 a.m.	G.T.R.	Campbellford, Ont., Hoopers Crossing, Third east	–	1	Unprotected	Horse and rig
"	10127	June 4	7.25 a.m.	C.P.R.	Mimico, Ont., Queen street	–	1	Unprotected	Motor truck
"	10130	May 9	5.05 p.m.	E. & N.	Cobble Hill, B.C., crossing just south of station	–	1	Unprotected	Automobile
"	10138	June 6	12.45 a.m.	G.T.R.	Burlington, Ont., Brant House crossing	–	4	Unprotected	Automobile
"	10144	June 2	2.57 p.m.	C.P.R.	St. Therèse, Que., crossing one mile north	–	1	Unprotected	Horse and rig
"	10145	June 2	1.50 p.m.	C.P.R.	St. Gabriel, Blanche street crossing	–	1	Unprotected	Pedestrian
"	10146	Dec. 7	10.45 a.m.	C.N.R.	Montmorency Mills, St. François crossing	–	1	Unprotected	Horse and rig
"	10147	April 30	5.40 p.m.	C.P.R.	Lytton station, first crossing west	–	3	Unprotected	Motor truck
"	10152	May 20	11.30 a.m.	C.P.R.	Nevis Station, Alta., first crossing east	–	1	Unprotected	Horse and rig
"	10163	June 13	3.40 p.m.	G.T.R.	Iroquois, Ont., second crossing west	1	–	Unprotected	Horse and rig
"	10164	June 2	3.52 p.m.	G.T.R.	Aultsville, Ont., crossing half-mile east of station	1	1	Bell	Horse and rig
"	10167	June 13	1.45 p.m.	C.P.R.	Ostrander, Ont., crossing one mile from	–	1	Unprotected	Automobile
"	10168	June 23	11.10 a.m.	C.P.R.	Ingersoll, Ont., King street crossing	–	1	Bell	Auto truck
"	10175	June 18	8.55 a.m.	G.T.R.	Glen Robertson, Ont., crossing two miles east	1	1	Unprotected	Horse and rig
"	10177	June 9	2.24 p.m.	M.C.R.	Niagara Falls, Ont., Huron street	–	1	Unprotected	Automobile
"	10181	June 11	10.10 a.m.	G.T.R.	Galt, Main street	–	2	Watchman	Automobile
"	10191	July 2	8.19 a.m.	C.P.R.	Woodstock, Ont., Dundas street crossing	–	1	Bell	Motor truck

No. 9.—Statement Showing Highway Crossing Accidents Attended by Personal Injury Investigated During the Year Ending December 31, 1921.—*Continued.*

File	Date	Time	Railway	PLACE	Killed	Injured	Protection	Remarks
Inv. 10192	June 25	1.00 p.m.	C.P.R.	Calgary, Alta., Fourth street crossing	1	–	Unprotected	Pedestrian
" 10207	June 29	1.30 p.m.	C.P.R.	Fincastle, Alta., crossing two miles east	1	–	Unprotected	Automobile
" 10208	June 30	2.43 p.m.	C.P.R.	Blairmore, Alta., first crossing east of station	–	1	Unprotected	Motor truck
" 10214	June 29	10.56 a.m.	G.T.R.	River Beaudette, Que., first crossing east	1	–	Unprotected	Horse and rig
" 10218	June 30	3.30 p.m.	G.T.R.	Prescott, Ont., third crossing east	1	–	Unprotected	Horse and rig
" 10226	July 9	10.00 p.m.	G.T.R.	Camperdown, Ont., first crossing south	1	–	Unprotected	Horse and rig
" 10244	May 31	5.30 p.m.	C.N.R.	Calder Yards, Alta., St. Albert Trail crossing	–	2	Unprotected	Automobile
" 10258	June 29	5.40 p.m.	C.P.R.	Gibbs, Sask., first crossing south	–	3	Unprotected	Automobile
" 10259	June 8	5.00 p.m.	C.P.R.	Francis, Sask., first crossing north of station	–	2	Unprotected	Auromobile
" 10260	July 6	5.36 p.m.	C.P.R.	Parkbeg, Sask., first crossing east	2	–	Unprotected	Automobile
" 10262	July 5	6.30 p.m.	C.N.R.	Edmonton, Alta., Kinistine Avenue crossing	–	1	Unprotected	Pedestrian
" 10264	July 3	8.30 p.m.	G.T.R.	Dunnville, Ont., Wheatleys Crossing	2	3	Unprotected	Automobile
" 10269	June 25	12.50 p.m.	N.Sc. & T.	Niagara-on-the-Lake, crossing at stop 64	–	2	Unprotected	Automobile
" 10276	July 2	3.55 p.m.	C.P.R.	Lorette, Que., crossing at mileage 152	–	1	Unprotected	Motor truck
" 10277	July 1	5.30 p.m.	C.N.R.	Homewood, Man., crossing 450 feet west	–	3	Unprotected	Automobile
" 10278	July 3	8.02 p.m.	C.P.R.	Delson, Que., first crossing south	3	1	Unprotected	Automobile
" 10289	July 9	4.00 p.m.	G.T.R.	Brantford, Ont.	1	–	Unprotected	Automobile
" 10303	July 21	5.20 p.m.	B. & H.	Cainsville, Ont., Stone Road crossing	–	1	Unprotected	Pedestrian
" 10304	July 16	2.50 p.m.	C.N.R.	Gameridge, Ont., crossing 335 feet north	1	–	Unprotected	Horse and rig
" 10317	July 29	7.40 a.m.	C.P.R.	Eady, Ont., second crossing north	–	1	Unprotected	Automobile
" 10321	May 11	8.20 p.m.	C.N.R.	South Western Jct., N.S., Byers crossing	–	1	Unprotected	Pedestrian
" 10322	July 29	10.50 a.m.	C.P.R.	Carleton Place, Ont., crossing 3 miles west	1	–	Unprotected	Horse and rig
" 10328	Aug. 11	9.50 a.m.	G.T.R.	Oakville, Ont., 9th line crossing; third east	–	2	Unprotected	Automobile
" 10338	July 11	9.22 a.m.	C.P.R.	St. Thérèse, Que., Matté crossing	1	1	Unprotected	Motor truck
" 10346	Aug. 23	9.45 a.m.	G.T.R.	Thorndale, Ont., Main street crossing	–	1	Bell	Motor truck
" 10351	Aug. 8	7.50 p.m.	G.T.R.	Dorval, Que., crossing at station	–	2	Gates	Automobile
" 10354	July 15	7.12 a.m.	N. St.C.& T.	St. Catherines, Ont., Welland avenue crossing	1	–	Bell	Pedestrian
" 10377	Aug. 20	12.00 a.m.	T.H. & B.	Mineral Springs, Ont., First Governors road crossing	–	1	Unprotected	Automobile
" 10385	July 23	8.30 p.m.	G.T.R.	Port Colborne, Ont., Catherine street crossing	–	1	Unprotected	Pedestrian
" 10386	Aug. 24	5.20 p.m.	H.R.E.	Irondale, Ont., Harrisons crossing	–	1	Unprotected	Automobile
" 10388	July 31	5.16 p.m.	C.N.R.	Haultain, Sask., crossing 4 poles south	–	1	Unprotected	Automobile
" 10391	Aug. 1	4.40 p.m.	M.C.R.	Alvinston, Ont., first crossing east	–	2	Unprotected	Automobile
" 10393	Aug. 23	12.11 p.m.	H.R.E.	Hamilton, Ont., Birmingham avenue crossing	–	3	Unprotected	Automobile
" 10405	July 20	11.31 a.m.	C.P.R.	Arcola, Sask., first crossing west	1	–	Unprotected	Pedestrian
" 10408	July 30	10.35 a.m.	C.V.R.	Granby, Que., second crossing two miles south	–	1	Unprotected	Automobile
" 10409	July 28	3.55 p.m.	N.J.R.	Napierville, Que., crossing ¾ mile north	–	1	Unprotected	Automobile
" 10410	Sept. 1	9.35 a.m.	G.T.R.	Kitchener, Ont., Waterloo street crossing	1	–	Unprotected	Pedestrian
" 10430	Aug. 24	9.53 a.m.	G.T.R.	Mt. Dennis, Ont., Fifth avenue crossing	–	2	Unprotected	Automobile
" 10434	Sept. 7	2.50 p.m.	G.T.R.	Bracebridge, Ont., second crossing south	–	4	Unprotected	Automobile
" 10437	Aug. 30	8.00 a.m.	G.T.R.	Montreal, Que., Blue Bonnets crossing		1	Unprotected	Motor cycle

"	10457	Sept. 13	7.30 a.m.	G.T.R.	Stratford, Ont., second crossing west of	1	-	Unprotected	Automobile
"	10461	Aug. 14	9.19 p.m.	C.P.R.	Beausejour, Man., first crossing west of station	-	1	Unprotected	Automobile
"	10467	Aug. 16	3.30 p.m.	C.N.R.	Capreol, Ont., Yonge street crossing	-	1	Unprotected	Automobile
"	10472	Aug. 30	9.38 a.m.	C.N.R.	Lamont, Alta., crossing at m.p. 788	-	2	Unprotected	Automobile
"	10489	Sept. 20	9.53 p.m.	C.P.R.	Mileage 7·7, Galt subdivision, Dundas street crossing	1	3	Bell	Automobile
"	10492	July 21	1.42 p.m.	C.P.R.	Westfield Jct., second crossing east	-	1	Bell	Automobile
"	10498	Sept. 11	5.08 p.m.	C.P.R.	Quebec, Que., St. Valin street crossing	-	1	Gates	Pedestrian
"	10500	Sept. 23	7.07 p.m.	L.E. & N.	M.P. 503, Ont., McRae's crossing	1	-	Unprotected	Automobile
"	10508	Aug. 18	3.05 p.m.	C.N.R.	Pelly, Sask., crossing 250 yards west	-	1	Unprotected	Automobile
"	10533	Sept. 1	7.13 a.m.	C.P.R.	Rock Forest, Que., first crossing east	1	4	Unprotected	Automobile
"	10537	Aug. 29	6.45 p.m.	G.T.R.	Guelph Jct., Liverpool street crossing	-	1	Unprotected	Automobile
"	10538	Oct. 3	10.38 a.m.	G.T.R.	Courtland, Ont., Talbot Road crossing	3	1	Bell	Automobile
"	10541	Oct. 1	10.30 p.m.	G.T.R.	Brantford, Ont., West street crossing	1	-	Gates	Pedestrian
"	10562	Oct. 7	3.32 p.m.	G.T.R.	Grimsby, Ont., second crossing west	2	1	Bell	Automobile
"	10563	Sept. 24	12.20 p.m.	G.T.R.	Toronto, Ont., Royce avenue	-	1	Gates	Pedestrian
"	10564	Sept. 18	1.19 p.m.	G.T.R.	Eastwood, Ont., Governors Road crossing	-	1	Unprotected	Automobile
"	10566	Sept. 28	9.55 p.m.	G.T.R.	Burlington Beach, Ont., Beach Road crossing	-	1	Unprotected	Automobile
"	10569	Sept. 24	6 15 p.m.	C.N.R.	Loretteville, Que., St. Charles crossing	1	-	Unprotected	Automobile
"	10575	Aug. 20	2.52 p.m.	G.T.R.	Lennoxville, Que., Massawippi crossing	1	1	Unprotected	Automobile
"	10576	July 11	10.02 a.m.	B. & M.	Rock Island, Que., first crossing north	1	-	Unprotected	Pedestrian
"	10577	Oct. 3	9.00 a.m.	G.T.R.	Kitchener, Ont., Weber street crossing	-	1	Unprotected	Auto truck
"	10579	Oct. 9	9.50 a.m.	C.P.R.	Mount Dennis, Ont., Craydon avenue crossing	-	1	Unprotected	Auto truck
"	10583	Oct. 6	5.10 p.m.	Osh.	Oshawa, Ont., King and Ritson road	-	4	Unprotected	Automobile
"	10585	Oct. 6	5.10 p.m.	C.P.R.	Myrtle, Ont., Raglan Road crossing	-	1	Unprotected	Automobile
"	10594	Sept. 13	5.45 p.m.	G.T.R.	Montreal, Que., St. Philippe street crossing	-	1	Gates	Pedestrian
"	10595	Oct. 14	8.50 a.m.	G.T.R.	Montreal, Decourcelles street crossing	-	1	Gates	Horse and rig
"	10596	Oct. 14	1.15 p.m.	G.T.R.	Marshville, Ont., first crossing east	-	1	Unprotected	Auto truck
"	10598	Oct. 7	10.13 a.m.	N. St.C.& T.	Niagara Falls, Ont., Stanley street crossing	-	1	Unprotected	Automobile
"	10599	Oct. 9	1.55 p.m.	C.P.R.	Alexander, Man., third crossing west	-	4	Unprotected	Automobile
"	10602	Oct. 14	11.55 a.m.	C.P.R.	Glasdtone, Man., first crossing west	-	1	Unprotected	Pedestrian
"	10641	Oct. 8	12.54 p.m.	C.P.R.	Iberville Jct., Que., first crossing south	1	-	Unprotected	Automobile
"	10644	Oct. 27	11.32 a.m.	T.H. & B.	Coyle, Ont., River road crossing	-	1	Bell	Horse and rig
"	10662	Oct. 20	10.20 a.m.	M.C.R.	Charing Cross, Ont., crossing east of station	-	1	Bell	Automobile
"	10664	Oct. 21	6.22 p.m.	B. & H.	Hamilton, Ont., Park and Main streets	-	1	Unprotected	Pedestrian
"	10669	Oct. 19	4.00 p.m.	C.N.R.	Preeceville, Man., crossing one-half mile east	-	2	Unprotected	Automobile
"	10678	Oct. 23	2.05 p.m.	B. & H.E.	Langford Siding, Ont., crossing west of	-	3	Unprotected	Automobile
"	10683	Oct. 11	9.00 a.m.	C.N.R.	Kylemore, Sask., crossing two miles west	-	1	Unprotected	Horse and rig
"	10685	Oct. 25	10.57 a.m.	C.P.R.	Vaudreuil, Que., Lake Shore crossing	1	-	Gates	Horse and rig
"	10687	Oct. 5	1.50 p.m.	C.N.R.	Pointe aux Trembles, Broadway street crossing	-	1	Unprotected	Automobile
"	10694	Oct. 20	12.05 a.m.	C.P.R.	Agincourt, Ont., first crossing west	-	1	Unprotected	Automobile
"	10695	Nov. 8	5.35 a.m.	C.P.R.	Kendry, Ont., public crossing at	-	1	Unprotected	Automobile
"	10700	Nov. 5	9.37 a.m.	G.T.R.	Arnprior, Ont., John street crossing	-	1	Unprotected	Motor truck
"	10701	Nov. 11	9.50 a.m.	G.T.R.	Vineland, Ont., first public road crossing west	1	-	Bell	Automobile
"	10705	Aug. 20	1.30 p.m.	C.P.R.	Belleville, Ont., Kingston Road crossing	1	-	Bell	Horse and rig
"	10714	Oct. 5	10.55 a.m.	C.N.R.	Quill Lake, Sask., public crossing west	-	2	Unprotected	Automobile
"	10716	Oct. 17	11.53 a.m.	C.N.R.	Saskatoon, Sask., Avenue "9" south	-	1	Unprotected	Motor truck
"	10719	Oct. 25	12.08 p.m.	G.T.R.	Danville, Que., second crossing one mile west	-	1	Unprotected	Horse and rig
"	10731	Oct. 31	4.16 p.m.	C.P.R.	Mile End, Que., St. Hubert street crossing	1	-	Gates	Automobile
"	10525	Aug. 26	11.43 a.m.	M.C.R.	Leamington, Ont., crossing 1½ miles north	1	-	Unprotected	Motor truck
"	10319	July 30	2.40 p.m.	G.T.R.	Toronto, Ont., George street crossing	1	1	Watchman	Horse and rig

No. 9.—STATEMENT Showing Highway Crossing Accidents Attended by Personal Injury Investigated During the Year Ending December 31, 1921.—*Concluded.*

File	Date	Time	Railway	PLACE	Killed	Injured	Protection	Remarks
Inv. 10318	Aug. 9	10.45 p.m.	C.P.R.	Alliston, Ont., Victoria street crossing	–	2	Bell	Automobile
" 9961	April 4	11.20 a.m.	M.C.R.	Shedden, Ont., first crossing west of station	1	–	Unprotected	Automobile
" 10753	Oct. 19	3.40 p.m.	C.P.R.	Three Rivers, Que., Plaisance street crossing	1	–	Unprotected	Pedestrian
" 10803	Nov. 22	2.50 p.m.	P.M.R.	Walkerville, Ont., Edna street crossing	1	2	Unprotected	Automobile
" 10811	Dec. 1	11.57 a.m.	C.P.R.	Cavan, Ont., crossing half-mile west	1	–	Unprotected	Horse and rig
" 10813	Dec. 4	9.10 a.m.	G.T.R.	Ingersoll St., Ont., Wonham street crossing	–	1	Unprotected	Horse and rig
" 10818	Dec. 0	5.45 p.m.	C.P.R.	Toronto, Ont., Lansdowne avenue	–	1	Gates	Pedestrian
" 10834	Dec. 15	5.52 p.m.	C.P.R.	Toronto, Ont., Royce avenue	–	1	Gates	Pedestrian
" 10835	Nov. 10	9.48 a.m.	C.P.R.	Neepawa, Man., second crossing east	–	1	Unprotected	Automobile
" 10844	Dec. 7	11.06 a.m.	G.T.R.	South Indian, Ont., first crossing east	–	2	Unprotected	Horse and rig
Total 189					68	209		

No. 10.—Statement Showing Accidents to Employees while Working on or under Engines, Investigated During the Year Ending December 31, 1921.

File	Date	Railway	Place	Remarks	Killed	Injured
Inv. 9584	Dec. 24	C.P.R.	Merrickville, Ont., 100 yards east of station	Fell off engine	1	-
" 9603	Dec. 21	Wabash	Thamesville, Ont.	Caught finger between shaker bar and water box	-	1
" 9607	Dec. 20	G.T.R.	Dundas, Ont., three miles west	Tube of engine burst	-	1
" 9609	Dec. 23	C.N.R.	Winnipeg, Man., Union Station	Water glass burst	-	1
" 9617	Dec. 13	C.N.R.	Scotsford, Alta.	Squirt hose become disconnected	-	1
" 9633	Jan. 4	G.T.R.	London, Ont.	Shaking grates	-	1
" 9634	Dec. 29	G.T.R.	Parkdale, Ont.	Finger caught between shaker bar and firebox door	-	1
" 9637	Dec. 23	G.T.R.	Toronto, Ont., Union Station	Shaking grates	-	1
" 9638	Dec. 25	G.T.R.	Toronto shop track, Ont.	Fell off engine	-	1
" 9653	Nov. 11	C.N.R.	Ilkstone, Ont.	Nipple blew off squirt hose	-	1
" 9654	Jan. 12	C.N.R.	Dorion, Ont.	Shaking grates	-	1
" 9657	Dec. 11	C.N.R.	Between Hogarth and McKirdy, Ont.	Squirt hose pipe broke off	-	1
" 9668	Jan. 5	G.T.R.	Allandale Yard, Ont.	Fell off engine	-	1
" 9670	Jan. 7	G.T.R.	Bowmanville, Ont.	Foot caught in tender	-	1
" 9673	Jan. 3	G.T.R.	Hope Siding, Ont.	Digging coal out of grates	-	1
" 9676	Dec. 17	C.N.R.	Mission, Ont.	Fell off engine	-	1
" 9694	Nov. 27	G.T.R.	Between Parry Sound and James Bay Jct.	Putting valve in air door piston in place	-	1
" 9703	Dec. 20	C.N.R.	Wartime, Sask.	Slipped off water car	-	1
" 9714	Jan. 18	G.T.R.	Lacolle Jct., Que.	Slipped off running board	-	1
" 9720	Jan. 14	C.N.R.	Gladstone, Man.	Shaking grates	-	1
" 9722	Jan. 3	C.N.R.	Saskatoon, Sask.	Explosion in firebox	-	1
" 9725	Jan. 16	G.T.R.	Huntsville, Ont.	Shaking grates	-	1
" 9743	Jan. 6	C.N.R.	Argyle Tank, N.S.	Crossarm on tank broke	-	1
" 9749	Jan. 23	C.N.R.	Alfred Jct., Que.	Piece of coal fell from coal chute	-	1
" 9750	Jan. 26	C.N.R.	Rockland, Ont.	Sprinkler hose blew off	-	1
" 9767	Jan. 31	C.N.R.	Joliette, Que.	Slipped and fell off engine	-	1
" 9769	Dec. 23	C.N.R.	Saskatoon, Sask.	Injector broke	-	1
" 9772	Feb. 6	G.T.R.	Huntsville, Ont.	Hand went through cab window	-	1
" 9774	Feb. 4	G.T.R.	Kitchener, Ont.	Inspirator broke on steam pipe	-	1
" 9783	Feb. 4	C.P.R.	Farnham Yard, Que.	Fell off tank	-	1
" 9784	Feb. 9	C.P.R.	Farnham Station, Ont.	Hinged plate of truck box struck him	-	1
" 9786	Feb. 15	C.N.R.	Shore Line Jct., Que.	Hand caught in gearing	-	1
" 9789	Jan. 24	C.N.R.	Woodridge, Man.	Knee caught on edge of boiler lagging	-	1
" 9802	Feb. 11	G.T.R.	Port Colborne, Ont.	Caught between spout and tender	-	1
" 9805	Jan. 29	C.N.R.	Veregin, Sask.	Fell off engine	-	1
" 9806	Jan. 28	C.N.R.	Stuna, Sask.	Fell off tender	-	1
" 9808	Feb. 3	C.P.R.	Finch, Ont.	Trailing rod broke	-	1
" 9809	Jan. 4	C.N.R.	Ottawa, Ont.	Using wrench, same slipped and struck him	-	1

No. 10.—Statement Showing Accidents to Employees while Working on or under Engines, Investigated During the Year Ending December 31, 1921.—*Continued.*

File	Date	Railway	Place	Remarks	Killed	Injured
Inv. 9810	Feb. 7	M.R.Co.	Emerson Jct., Man.	Opened blow-off cock and was scalded	-	1
" 9818	Feb. 17	G.T.R.	Woodstock, Ont.	Cylinder head fell on hand	-	1
" 9819	Feb. 21	G.T.R.	Concord, Ont.	Coal dropped off tender	-	1
" 9838	Feb. 24	C.P.R.	Ingersoll Yard, Ont.	Fell off running board	-	1
" 9839	Jan. 17	N.Y.C.	Between Adirondack and Caughnawaga, Que.	Fell off coal pit	-	1
" 9859	Feb. 16	C.N.R.	Port Arthur, Ont.	Fell off engine	-	1
" 9869	Feb. 21	Wabash	Chatham, Ont.	Fell off engine	-	1
" 9879	Jan. 25	C.N.R.	Winnipeg, Man.	Water glass burst	-	1
" 9887	Feb. 6	C.N.R.	Wainwright Yard, Alta.	Moving to tank for water	-	1
" 9888	Feb. 5	C.N.R.	Blue River Yards	Getting on engine	-	1
" 9925	Feb. 22	C.N.R.	Melville, Sask.	Shaking grates	-	1
" 9928	Jan. 24	C.N.R.	Brandon, Man.	Putting on injector squirt hose	-	1
" 9932	Mar. 12	G.T.R.	Arnprior, Ont.	Taking reversing lever out of notch	-	1
" 9934	Mar. 4	C.P.R.	Mars, M.P. 1284, Laggan Sub.	Steam chest of rotary plow burst	-	1
" 9944	Mar. 25	G.T.R.	Allandale, Ont.	Struck against oil box door	-	1
" 9945	Feb. 22	C.N.R.	Vermilion, Alta.	Water glass broke	-	1
" 9946	Apr. 2	G.T.R.	Longford, Ont.	Removing plug of lubricator	-	1
" 9947	Mar. 30	G.T.R.	Burlington Jct., Ont.	Fell from cab of engine	-	1
" 9955	Apr. 7	C.P.R.	Johnsville, Que.	Filling hot big end with grease	-	1
" 9958	Feb. 21	C.N.R.	Delisle, Man.	Repairing blower pipe	-	1
" 9966	Mar. 25	C.N.R.	St. Anne, Man.	Tightening nut	-	1
" 9977	Mar. 28	C.N.R.	Drumheller shop track, Alta.	Screwing down grease plug	-	1
" 9979	Apr. 16	G.T.R.	Belleville coal chute, Ont.	Apron of chute caught cab of locomotive	-	1
" 9980	Apr. 8	G.T.R.	Ridgeway, Ont.	Shaking grates	-	1
" 9981	Apr. 5	G.T.R.	Allandale, Ont.	Closing coal grates	-	1
" 9982	Mar. 22	G.T.R.	Pike Creek, Ont.	Steam pipe broke off	-	1
" 9991	Apr. 18	G.T.R.	Palmerston Depot, Ont.	Examining engine, head caught between wheel centre and leading end of right trailing side rod	-	1
" 10000	Apr. 9	C.N.R.	Fort Rouge Yard, Man.	Engine back-fired	-	1
" 10001	Apr. 10	C.P.R.	Lake Louise, B.C.	Gas in fire-box exploded	-	3
" 10019	Mar. 21	C.N.R.	Bruderheim, Alta.	Dumping ashpan	-	1
" 10042	Apr. 1	K.V.R.	Brookmere, B.C.	Fell from engine	-	1
" 10043	Apr. 18	C.N.R.	Boston Bar, B.C.	Valve on squirt hose worked open	-	1
" 10061	May 2	G.T.R.	London, Ont.	While getting out of cab struck head on a car	-	1
" 10066	Apr. 24	C.P.R.	Gladstone, Tank, Man.	Union coupler on injector steam pipe burst	-	1
" 10086	Apr. 2	C.N.R.	Between Moose Jaw and Antar, Sask.	Engine back fired	-	1
" 10102	Apr. 25	C.N.R.	Edson, Alta.	Hand caught between cab and coal boards	-	1
" 10107	Apr. 27	C.P.R.	Monklands, Ont.	Hose blew off coupling	-	1
" 10116	May 20	C.N.R.	Lovett Water Tank, Alta.	Struck by water spout	-	1

"	10133	May 23	G.T.R.	Pt. St. Charles, Que.	Trying to disconnect wedge	-	1
"	10134	June 1	G.T.R.	Turcot, Que.	Defective seat box	-	1
"	10142	Apr. 24	K.V.R.	McCulloch, B.C.	Lifting cover off hot tender	-	1
"	10165	Apr. 26	C.N.R.	Artland, Sask.	Knee jammed between reversing lever and seat	-	1
"	10173	June 20	G.T.R.	Richmond, Que.	Struck by poker falling from engine	-	1
"	10180	Apr. 22	G.T.R.	Kathmore, Ont.	Taking water, rope broke causing party to fall	-	1
"	10217	June 20	G.T.R.	Kindersley Yard, Alta.	Gas exploded in fire box	-	1
"	10220	June 23	G.T.R.	London Yard, Ont.	Cylinder blew out	-	1
"	10223	June 3	G.T.R.	Moulton, Ont.	Sprinkling coal	-	1
"	10236	July 5	G.T.R.	Oro, Ont., 1 mile south	Running lever jumped out of place	-	1
"	10255	June 11	C.N.R.	Humbolt, Sask.	Superheater flue burst	-	2
"	10265	July 15	G.T.R.	Toronto, Union Station, Ont.	Knocked off step of engine	-	1
"	10267	July 8	G.T.R.	Port Dover, Ont.	Opening overflow of injector	-	1
"	10307	July 7	C.N.R.	Vegreville, Wye, Alta.	Slipped from gangway	-	1
"	10332	July 9	C.N.R.	Davin, Sask.	Burnt while poking fire	..	1
"	10333	July 21	C.N.R.	Vanscoy, Sask.	Struck hand on injector valve	-	1
"	10334	July 18	C.N.R.	Delisle, Sask.	Tightening union joint	-	1
"	10363	Aug. 3	G.T.R.	Mimico roundhouse, Ont.	Shaking grates	-	1
"	10365	Aug. 3	G.T.R.	Holstein, Ont.	Lump of coal fell off tender	-	1
"	10370	Aug. 18	G.T.R.	Dunkeld, Ont.	Making repairs to ashpan	-	1
"	10371	Aug. 11	G.T.R.	Mimico Roundhouse, Ont.	Shutting exhaust cock of pump	-	1
"	10373	July 26	C.P.R.	Banff, Alta.	Water glass broke	-	1
"	10375	Aug. 21	C.N.R.	St. Andrew, Que.	Sprinkler hose blew off	-	1
"	10378	Aug. 23	G.T.R.	Belceil, Que.	Shaking grates	-	1
"	10400	Aug. 8	C.N.R.	M.P. 98, Ruel Subdivision	Over-flow pipe become disconnected	-	1
"	10401	Aug. 10	G.T.R.	Ottawa, Elgin Street Yard, Ont.	Putting flags on engine fell off	-	1
"	10414	Aug. 10	G.T.R.	Port Hope Yard, Ont.	While poking fire struck hand on tender	-	1
"	10427	Aug. 12	C.N.R.	Nutana, Sask.	Raking fire	-	1
"	10428	Aug. 16	C.P.R.	M.P. 25, St. Andrews Sub.	Explosion in firebox	-	1
"	10429	Aug. 17	C.N.R.	Limoilou Yard, Que.	Fire blew out of firebox	-	1
"	10443	May 27	K.V.R.	Brookmere, Alta.	Fell off foot board of engine	-	1
"	10454	Aug. 22	C.N.R.	Alsask, Alta.	Shaking grates	-	1
"	10466	July 29	C.N.R.	Portage, East Tower	Fell from engine	-	1
"	10484	Aug. 30	G.T.R.	Malton, Ont., 2 miles east	Struck by reversing lever	-	1
"	10510	Sept. 15	C.N.R.	Brent Yard, Ont.	Scalded when injector broke	.....	1
"	10511	Aug. 9	C.P.R.	Hochelaga, Que.	Fell off running board	-	1
"	10519	Sept. 5	C.N.R.	Near Canoe River, M.P., 63 B.C.	Spring hanger broke	-	1
"	10539	Sept. 22	C.N.R.	Winnipeg, Man., near Clark St.	Fell from tender of engine	-	1
"	10546	Sept. 7	C.N.R.	Weyburn, Sask.	Shaking grates	-	1
"	10550	Sept. 17	G.T.R.	Cornwall, Ont.	Dumping ashpan	-	1
"	10559	Sept. 26	C.P.R.	Trenton, Ont.	Fell off side of engine	-	1
"	10615	Oct. 5	C.N.R.	McBride Yard, B.C.	Hand jammed in tank box	-	1
"	10635	Oct. 6	C.N.R.	Portage Yards, Man.	Boarding engine struck head on tender	-	1
"	10642	Oct. 17	G.T.P.	Toronto, Ont.	Fell off boiler	-	1
"	10659	Sept. 28	C.N.R.	Warden, Alta.	Water glass burst	-	1
"	10660	Oct. 8	C.N.R.	Caprona, Alta.	Fell off engine	-	1
"	10668	Oct. 18	C.N.R.	Resetown, Sask.	Pulling down coal chute	-	1
"	10706	Oct. 10	C.N.R.	Hornepayne Shops, Ont.	Filling boiler of engine	-	1
"	10707	Sept. 23	G.T.R.	Rainy Lake, Ont.	Coal pit slipped	-	1
"	10708	Oct. 30	G.T.R.	Madawaska, Ont.	Spotting engine to dump pan	-	1

No. 10.—STATEMENT Showing Accidents to Employees while Working on or under Engines, Investigated During the Year Ending December 31, 1921.—*Concluded.*

File	Date	Railway	Place	Remarks	Killed	Injured
Inv. 10709	Oct. 19	G.T.R.	Ottawa, Bank Street Yard, Ont.	Re-railing engine	-	1
" 10725	Oct. 26	G.T.R.	Port Credit, Ont.	Lighting tail lamps	-	1
" 10727	Oct. 19	G.T.R.	Beachville, Ont.	Endeavoring to extinguish lagging which was on fire	-	1
" 10744	Nov. 5	C.N.R.	Beynon, Alta.	Defective cylinder cock	-	1
" 10745	Oct. 9	C.N.R.	Hervey, Jct.	Fell off rengine	-	1
" 10760	Oct. 17	C.N.R.	Rosetown, Sask.	Struck by coal chute	-	1
" 10761	Nov. 10	C.P.R.	North Transcona, Man.	Watchman moved engine	-	1
" 10762	Nov. 5	C.N.R.	Algar water tank, Man.	Firebox door closed on hand	-	1
" 10769	Nov. 15	C.N.R.	Melville, Sask.	Water glass broke	-	1
" 10774	Nov. 7	C.N.R.	Near Craik, Sask.	Hand caught on rusty nail while putting wood in engine	-	1
" 10780	Oct. 16	C.P.R.	Assiniboia Yard	Hand caught between reversing lever and boiler	-	1
" 10781	Nov. 19	C.N.R.	Plumas, Man.	Slipped from deck of engine	-	1
" 10786	Nov. 1	C.N.R.	Shawinigan Falls, Que.	Scalded by water from injector	-	1
" 10787	Nov. 14	G.T.R.	London Yard, Ont.	Fell off engine while putting up classification lamps	-	1
" 10790	Oct. 29	C.N.R.	Biggar Yards, Sask.	Struck by squirt hose	-	1
" 10791	Oct. 26	C.N.R.	Scott, Sask.	Squirt hose parted	-	1
" 10793	Oct. 28	C.N.R.	Highgate, Sask.	Gauge glass broke	-	1
" 10823	Oct. 25	C.N.R.	Near Ruddell, Man.	Squirt hose blew while dampening coal	-	1
" 10824	Sept. 28	C.N.R.	Saskatoon, Yards, Sask.	Water glass burst	-	1
" 10826	Nov. 28	C.N.R.	Marchand, Man.	Slipped on tank	-	1
" 10831	Nov. 23	G.T.R.	Kingston, Ont.	Closing door of manhole	-	1
" 10848	Oct. 22	C.N.R.	Ridgeville, Man.	Slipped from back step of tender	-	1
" 10849	Dec. 16	G.T.R.	Wyoming, Ont.	Air door flew open	-	1
" 10850	Dec. 16	G.T.R.	Between Brighton and Colborne, Ont.	Slipped from hand railing on engine	-	1
Total....150					1	152

No. 11.—Statement Showing the Number of Highway Crossing Accidents with the Total Number of Killed and Injured by Provinces and Railways for Twelve Months Ending December 31, 1921.

Name of Railway	Nova Scotia			New Brunswick			Quebec			Ontario			Manitoba			Saskatchewan			Alberta			British Columbia			Total		
	Acc.	K.	I.	Acc.	K.	I.	Acc.	K.	I.	Acc.	K.	I.	Acc.	K.	I.	Acc.	K.	I.	Acc.	K.	I.	Acc.	K.	I.	Acc.	K.	I.
Canadian Pacific				2		2	15	10	15	26	8	28	6		10	7	3	9	7	2	7	2	1	4	65	24	75
Grand Trunk							12	4	13	52	29	55													64	33	68
Canadian National	1		1				2		2	9	3	7	4		7	7	1	9	2		4				25	4	30
Michigan Central										7	2	6													7	2	6
Nia. St. C. and Tor										3	1	3													3	1	3
Pere Marquette										1	1	2													1	1	2
Brantford and Hamilton										4		6													4		6
Hamilton Radial										2		4													2		4
Tor., Hamilton and Buffalo										5	1	4													5	1	4
Boston and Maine							1	1																	1	1	
Oshawa										1		4													1		4
Central Vermont							1		1																1		1
Napierville Jct							2	3	4																2	3	4
Esquimalt and Nanaimo																						1		1	1		1
Quebec Central							1		1																1		1
Grand River										1		1													1		1
Lake Erie and Northern										2		4													2		4
	1		1	2		2	34	18	36	113	45	124	10		17	14	4	18	9	2	11	3	1	5	186	70	214

No. 12.—STATEMENT Showing Highway Crossings at which Protection provided, and Nature of Protection, During Period of Twelve Months Ending December 31, 1921.

File No.	Order No.	Location of Crossing	Railway	Nature of Protection
9437·1325	30499	Allanburg, Ont., crossing just north of station	G.T.R.	Removal of tree obstruction.
9437·102	30500	Toronto, Ont., Woodbine avenue	G.T.R.	Gates.
9437·105	30602	Twp. of Etobicoke, Ont., Dundas street	C.P.R.	Automatic bell.
28786·10	30630	Fort Saskatchewan, Alta., crossings at Ross and Griesbach sts.	C.N.R.	Speed limitation of six miles per hour.
28786·10	30630	Fort Saskatchewan, Alta., crossings at Timm, Lang, Burleigh and Emma streets	C.N.R.	Speed limitation of ten miles per hour.
4552·4	30677	Hamilton, Ont., Lottridge street	G.T.R.	Gatemen's hours extended to full 24 hours.
9437·104	30715	Cooksville, Ont., Dundas street	C.P.R.	Two double electric automatic illuminated bells with wig-wag signal; and all standing cars to be kept back 200 feet from crossing lines.
9437·1042	30723	Colborne, Ont., first crossing west	G.T.R.	Cars not to be placed closer than 100 feet from crossing.
26765·173	30747	Alvinston, Ont., 2nd crossing west	G.T.R.	Removal of building and trees obstructing view.
27318·5	30768	Simcoe, Ont., town line crossing	L.E. & N.	Automatic electric bell.
9437·137	30781	Charing Cross, Ont., 1st crossing west of station	M.C.R.	Removal of trees; installation of two double illuminated electric bells, with wig-wag.
26765·182	30792	Twp. Stephenson, Ont., Matchett's crossing	G.T.R.	Removal of trees and brush, also grading of surface.
12433·2	30830	Winnipeg, Man., Water street	C.N.R.	Subway.
27802·6	30918	Silverdale, Ont., first crossing east	T. H. & B.	Removal of trees and brush.
1446·9	30926	Sclater, Man., first crossing east	C.N.R.	Removal of brush.
26727·66	30936	Dalhousie Mills, Ont., Glen Nevis crossing	C.P.R.	Grading of road surface and removal of waste material.
27318·3	30947	Galt, Ont., Concession street	G.R.R. & L.E. & N.	Trains to come to a stop before passing over crossing.
9437·258	31016	Perth, Ont., Drummond street	C.P.R.	Wig-wag to be provided in addition to bell already installed.
27467·15	31031	Crossing between Secs. 8 and 17, twp. 21, range 12, west 2nd meridian, Sask.	C.N.R.	Wig-wag to be provided in addition to bell already installed.
9437·416	31036	Newbury, Ont., Hagerty street crossing	G.T.R.	Two automatic bells and wig-wag signals.
26744·27	31095	Ericksdale, Man., crossing 4·2 miles north	C.N.R.	Removal of brush.
26765·178	31166	Hamilton, Ont., Kelly street	G.T.R.	Flagman, daily except Sunday.
9437·1036	31107	Moffatt, Ont., crossing on Lot 15, con. 2	C.P.R.	Automatic electric bell, with wig-wag signal.
26765·95	31134	Woodstock, Ont., Ingersoll Road crossing	G.T.R.	Automatic bell in lieu of 2 watchmen already installed.
26727·78	31152	Twp. Allison, Ont., between cons. 4 and 5	C.P.R.	Widen out cut to limit of right of way and for distance 300 feet south.
26744·4	31191	Letellier, Man., crossing just south of station	C.N.R.	Installation of sign boards at each side of crossing.
26711·19	31197	Torrance, Ont., crossing at mileage 111	C.N.R.	Removal of trees.
9437·628	31213	Twp. of Ancaster, Ont., Hamilton and Ancaster road	T.H. & B.	Subway.
31008	31231	Twp. of Nepean crossing on lot 33, con. 1, near Ottawa	C.P.R.	Construction of crossing over tracks; installation of a protective "island" on each side of crossing; install two automatic electric bells, with wig-wag signals; erection of standard crossing warning boards on each side of crossing; and removal of trees and shrubs.

26765·174	31259	Chatham, Ont., Lacroix street	G.T.R.	Two automatic electric bells, with wig-wag attachments, to be installed; and railway company to flag all train movements on all side tracks; in addition to keeping all standing cars back from crossing line 300 feet on each side of road, also erect posts the same distance from highway as a prohibition to cars standing any closer than the post to the highway.
9437·207	31266	Aurora, Ont., Yonge street	G.T.R.	Subway.
27467·17	31357	Regina, Sask., Seventh avenue	C.N.R.	Automatic electric bell and wig-wag.
26765·195	31368	Campbellford, Ont., third crossing east	G.T.R.	Removal of trees and brush.
9437·197	31377	Iroquois, Ont., Carman road	G.T.R.	Removal of trees.
27652·17	31385	River Beaudette, Que., first crossing east	G.T.R.	Removal of trees.
11978	31435	Shedden, Ont., first crossing west	M.C.R.	Double combination bell, and wig-wag signals.
9437·588	31460	Woodstock, N.B., King street	C.P.R.	Automatic electric bell, with wig-wag signal in lieu of gates.
26765·200	31469	Oakville, Ont., Ninth line crossing	G.T.R.	Removal of trees.
26727·36	31480	Woodstock, Ont., Dundas street crossing	C.P.R.	Adding wig-wag to bell already installed.
26765·163	31543	Sturgeon street, Omemee, Ont	G.T.R.	Advance warning signs installed 300 feet on both sides of crossing.
27811·20	31551	Blairmore, Alta., first crossing east	C.P.R.	Speed limitation of six miles an hour over crossing.
31305	31586	Niagara, Ont., Stop 64	N.St. C. & T.	Trees trimmed.
26765·160	31598	Prescott, Ont., third crossing east	G.T.R.	Removal of trees.
28374	31629	Bath, N.B., private crossing just south	C.P.R.	Speed limitation of ten miles an hour over crossing.
27802·7	31632	Mineral Springs, Ont., 1st Governor's road crossing west	T.H. & B.	Removal of trees and brush.
9437·361	31646	Windsor Mills, Que., Bridge street	G.T.R.	Automatic electric bell, with wig-wag signal, in lieu of watchman.
9437·324	31652	Beaconsfield, Que., crossing just east of station	C.P.R. & G.T.R.	Two automatic electric bells, with wig-wag signals in lieu of watchman.
27929·9	31687	Wallaceburg, Ont., Murray street	P.M.R.	Install sign posts 125 feet from crossing and all switching movements over crossing to be flagged.
26765·189	31714	Victoria Harbour, Ont., Lake Shore crossing	G.T.R.	Removal of trees and brush.
27156·56	31716	Rock Forest, Que., first crossing east	C.P.R.	Removal of embankment obstructing view at crossing.
9437·464	31733	Tavistock, Ont., Hope and Woodstock streets	G.T.R.	Automatic electric bell, with wig-wag signal in lieu of gates and watchman.
27156·55	31781	Delson, Que., first crossing south	C.P.R.	Removal of trees and brush also cars to be kept back 200 feet from crossing.
9437·1167	31817	Seaforth, Ont., Main street	G.T.R.	Automatic electric bell, with wig-wag signal in lieu of watchman.
9437·178	31903	Port Credit, Ont., Stave Bank road	G.T.R.	Automatic electric bell, with wig-wag signal in lieu of watchman.
27365·11	31947	Winnipeg, Man., Selkirk avenue	C.P.R.	Gates to be operated full 24 hours.
28786·11	.....	Edmonton, Alta., St. Albert road	C.N.R.	Removal of brush.
26727·16	.....	Galt, Ont., Clyde road	C.P.R.	Removal of trees.
27066·3	.....	Oakville, Ont., Randall street, corner of Chisholm	Ham. Rad.	Removal of board fence obstructing view of crossing.
26765·136	.....	Clinton, Ont., Victoria street (London road)	G.T.R.	Speed restriction of 10 miles an hour, and cars to be kept back 30 feet from east line of street.
29887·1	.....	Cainsville, Ont., Stone Road crossing	B. & H.	Removal of trees.
26842·19	.....	Welland, Ont., Lincoln street	M.C.R.	Removal of trees.
26711·24	.....	Harrowsmith, Ont., crossing 1½ miles west	C.N.R.	Removal of trees.

No. 12.—STATEMENT Showing Highway Crossings at which Protection provided, and Nature of Protection, During Period of Twelve Months Ending December 31, 1921.—*Concluded.*

File No	Order No.	Location of Crossing	Railway	Nature of Protection
26727-48	30733	Pontypool, 2nd public crossing East	C.P.R.	Diversion to connect with Manvers Road.
26765-209	31915	Peterboro, Ont., Argyle St.	G.T.R.	Wig-wag signal.
26910	31079	Hamilton, Ont., Sherman Ave	T.H. & B.	Over-head foot bridge.
9437-1301	31060	Nerepis, N.B., Mile 18-39, St. John Sub.	C.P.R.	Closed by diversion.
29724-2	30942	Algoma, Mile 46-98, Thessalon Sub.	C.P.R.	Subway.
9437-1166	31059	Ketepec, Mile 6-9, St. John Sub. Ketepec, Mile 6-35 " "	C.P.R.	Diversion (closed).

No. 13.—STATEMENT Showing the Number of Highway Crossings at which Protection has been Ordered, and the Nature of Protection set out by Provinces, for Twelve Months Ending December 31, 1921.

—	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	British Columbia	Alberta	Total
Automatic bell				2					2
Automatic bell and wig-wag				1		1			2
Automatic bell and wig-wag double installation				2					2
Automatic bell in lieu of watchman				1					1
Automatic bell and wig-wag in lieu of gates		1		2					3
Automatic bell and wig-wag in lieu of watchman			3	2					5
Automatic bell and wig-wag, double advance warning signs, protective island, and removal of trees				1					1
Automatic bell and wig-wag, double installation, and view to be kept clear				3					3
Wig-Wag				1					1
Wig-wag added to automatic bell				2		1			3
Watchman				1					1
Gates				1	1				2
Gates, hours of operation extended				1					1
Subway				3	1				4
Removal of view obstructions			3	17	2			1	23
Removal of view obstruction and grading of roadway				2					2
Cars to be kept clear specified distance				1					1
Speed limitation		1						7	8
Speed limitation and cars to be kept clear specified distance				1					1
Switching movements to be flagged and cars kept clear specified distance				1					1
Overhead footbridge				1					1
Erection of advance warning signs				1	1				2
Trains to stop before crossing				1					1
Diveasion (closed)		3		1					4
		5	6	49	5	2		8	75

No. 14.—STATEMENT Showing Number of Persons Killed and Injured at Public Highway Crossings, Separately, for Each Year for Two Years Ending March 31, 1919, Nine Months Ending December 31, 1919, Twelve Months Ending December 31, 1920, and Twelve Months Ending December 31, 1921.

	Gates		Bell		Watchman		Unprotected		Total	
Year	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.
1918	6	15	9	12		5	52	119	67	151
1919	3	20	10	20	1	7	27	115	41	162
Nine months ending Dec. 31, 1919	4	9	4	7	4	9	36	138	48	163
1920	6	14	6	29	4	8	52	164	68	215
1921	5	13	14	27	1	8	50	166	70	214
	24	71	43	95	10	37	217	702	294	905

No. 15.—STATEMENT Showing Number of Highway Crossing Accidents, the Nature of Same for Each and Every Year Separately for the Two Years Ending March 31, 1919, Nine Months Ending December 31, 1919, Twelve Months Ending December 31, 1920, and Twelve Months Ending December 31, 1921.

—	Gates						Watchman						Bell						Unprotected						Total					
	1918	1919	9 mos. 1919	1920	1921	Total	1918	1919	9 mos. 1919	1920	1921	Total	1918	1919	9 mos. 1919	1920	1921	Total	1918	1919	9 mos. 1919	1920	1921	Total	1918	1919	9 mos. 1919	1920	1921	Total
Automobile	1	3	4	4	3	*15*	3	1	1	2	4	*11*	5	13	5	17	15	*55*	45	49	50	93	92	*329*	54	66	60	116	114	*410*
Horse and rig	1	–	–	2	2	*5*	3	–	1	2	1	*7*	3	1	–	7	6	*17*	43	28	25	33	32	*161*	50	29	26	41	41	*190*
Pedestrian	9	17	4	13	10	*53*	1	6	3	3	–	*13*	4	3	1	3	4	*15*	21	21	22	12	20	*96*	35	47	30	31	34	*177*
	11	20	8	19	15	*73*	7	7	5	7	5	*31*	12	17	6	27	25	*87*	109	98	97	138	144	*586*	139	142	116	191	189	*777*

The total of 777 accidents covers 294 persons killed and 905 persons injured, as referred to in preceding statement.

No. 16.—STATEMENT Showing the Number of Trespassers Killed and Injured by Provinces and Railways for the Year Ending December 31, 1921.

Name of Railway	Nova Scotia		New Brunswick		Quebec		Ontario		Manitoba		Saskatchewan		Alberta		British Columbia		Total	
	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.
Grand Trunk	–	–	–	–	3	10	9	23	–	–	–	–	–	–	–	–	12	33
Canadian Pacific	–	–	–	1	4	–	18	11	3	8	6	3	4	2	2	2	37	27
Canadian National	1	–	–	–	–	1	2	3	2	–	3	3	3	12	1	4	12	23
Dominion Atlantic	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Essex Terminal	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1
Niagara, St Catharines & Toronto	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1
Michigan Central	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1
Grand River	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	2
New York Central	–	–	–	–	1	1	–	–	–	–	–	–	–	–	–	–	1	1
Great Northern	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–
Kettle Valley	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1
Toronto, Buffalo & Hamilton	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1	–
	1	1	–	1	8	12	30	42	5	8	9	6	7	14	4	7	64	91

No. 17.—Statement Showing the Number of Persons Killed and Injured on the Various Railways under the Jurisdiction of the Board from April 1, 1913, until March 31, 1919, Nine Months Ending December 31, 1919, Twelve Months Ending December 31, 1920, and Year Ending December 31, 1921.

Year	Passengers		Employees		Others		Total	
	K.	I.	K.	I.	K.	I.	K.	I.
1913	21	410	303	1,603	319	218	643	2,231
1914	31	339	249	1,250	314	310	594	1,899
1915	8	239	99	873	230	251	337	1,363
1916	17	140	120	788	200	197	337	1,125
1917	16	280	155	1,174	212	239	383	1,693
1918	22	342	137	1,220	174	268	333	1,830
1919	28	202	117	1,344	119	267	264	1,813
1919—9 months	4	274	91	951	128	277	223	1,502
1920	17	379	80	1,570	157	381	254	2,330
1921	4	240	91	1,344	148	344	243	1,928
	168	2,845	1,442	12,117	2,001	2,752	3,611	17,714

No. 18.—Statement Showing the Number of Persons Killed and Injured in the More Prominent Accidents on the Various Railways under the Jurisdiction of the Board Shown Separately for each Year for Two Years Ending March 31, 1919, Nine Months Ending December 31, 1919, Twelve Months Ending December 31, 1920, and Twelve Months Ending December 31, 1921.

—	1918		1919		9 months 1919		1920		1921		Total	
	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.	K.	I.
Derailment	19	242	9	159	13	247	11	316	12	159	64	1,123
Collision head on	6	47	8	57	4	85	–	66	2	33	20	288
Collision rear end	14	86	3	53	1	15	14	58	2	28	34	240
Collision in yard	9	58	2	40	–	21	2	45	1	43	14	207
Collision with cars, open switch	–	7	1	7	2	20	–	21	2	6	5	61
Collision with cars standing foul	–	14	–	1	–	1	–	4	–	15	–	35
Collision at level (diamond) crossing	–	14	3	18	–	3	–	4	–	7	3	46
Highway crossing protected	15	32	14	47	12	25	16	51	20	48	77	203
Highway crossing unprotected	52	119	27	115	36	138	52	164	50	166	217	702
Adjusting couplers, coupling, etc	5	70	6	75	3	59	6	101	–	69	20	374
Trespassing	93	64	77	102	64	68	73	120	64	91	371	445
Hand car, motor, struck by train	5	11	10	15	7	8	6	44	9	59	37	137
Struck by switch stand, etc	–	15	2	22	–	25	–	43	1	31	3	136
Crushed between cars and buildings	1	12	3	13	–	6	–	16	2	8	6	55
Falling off passenger train	4	13	7	7	1	17	3	24	3	18	18	79
Falling off top of car	6	23	2	37	7	37	3	33	3	16	21	146
Falling between cars going over top	1	2	3	9	1	5	3	2	2	7	10	25
Jumping off train in motion	6	46	5	46	1	54	4	62	3	64	19	272
Attempt to board train in motion	13	24	3	35	1	31	–	57	3	38	20	185
Run down by engine or car	43	50	32	54	27	41	26	76	18	57	146	278
Locomotive dropped crown sheet	18	3	1	8	–	4	–	–	–	–	19	15
	310	952	218	920	180	910	219	1,307	197	963	1,124	5,052

No. 19.—STATEMENT Showing Number of Cars Inspected Together with Defects for Twelve Months Ending December 31, 1921.

Name of Railway	Cars Inspected	Cars Defective	Per cent Defective	Grand Total Defects	Couplers and parts	Per cent Defective	Uncoupling Mechanism	Per cent Defective	Hand-holds	Per cent Defective
Canadian Pacific	35,566	1,967	5·53	2,185	43	1·51	296	13·54	117	5·35
Grand Trunk	20,846	1,023	4·90	1,138	17	1·49	170	14·93	54	4·74
Canadian National	15,161	1,029	6·78	1,174	23	1,95	210	17·88	43	3·66
Grand Trunk Pacific	680	64	9·41	68	–	–	13	19·11	3	4·41
Toronto, Hamilton & Buffalo	1,015	46	4·53	54	2	3·51	3	5·55	6	11·11
Michigan Central	2,295	74	3·22	78	2	2·56	4	5·12	2	2·56
Dominion Atlantic	346	63	18·20	88	–	–	6	6·81	5	5·68
Great Northern	155	22	14·19	22	–	–	5	22·72	–	–
Algoma Central	485	39	8·04	45	2	4·44	9	20·00	–	–
Esquimalt & Nanaimo	140	15	10·71	16	–	–	–	–	3	18·75
E. D. & B. C.	100	10	10·00	15	–	–	1	6·66	1	6·66
	76,789	4,352	5·66	4,883	89	1·82	717	14·70	234	4·79

Name of Railway	Air Brakes	Per cent Defective	Ladders	Per cent Defective	Sill Steps	Per cent Defective	Height of Couplers	Per cent Defective	Miscel-laneous	Per cent Defective
Canadian Pacific	1,238	56·65	146	6·68	157	7·18	18	0·82	170	7·78
Grand Trunk	756	66·43	37	3·25	33	2·89	9	0·79	62	5·44
Canadian National	678	57·75	59	5·02	80	6·81	11	0·93	70	5·96
Grand Trunk Pacific	48	70·58	–	–	2	2·94	1	1·47	1	1·47
Toronto, Hamilton & Buffalo	27	50·00	6	11·11	3	5·55	1	1·85	6	11·11
Michigan Central	60	76·92	4	5·12	1	1·28	–	–	5	6·41
Dominion Atlantic	52	59·09	2	2·27	10	11·36	1	1·13	12	13·63
Great Northern	12	54·54	–	–	–	–	3	13·63	2	9·09
Algoma Central	33	73·73	–	–	1	2·22	–	–	–	–
Esquimalt & Nanaimo	10	62·50	–	–	1	6·25	–	–	2	12·50
E. D. & B. C.	11	73·73	–	–	2	13·33	–	–	–	–
	2,925	59·90	254	5·20	290	5·93	44	0·90	330	6·75

No. 20.—STATEMENT Showing Defective Safety Appliances on Freight Cars as Reported by the Inspectors for Twelve Months Ending December 31, 1921.

COUPLERS AND PARTS

Coupler body broken	5
Coupler body worn	2
Guard arm short	–
Knuckle broken	1
Knuckle worn	1
Knuckle missing	7
Knuckle pin broken	2
Knuckle pin wrong	–
Knuckle pin bent	–
Knuckle pin missing	8
Lock block broken	54
Lock block worn	–
Lock block wrong	–
Lock block bent	–
Lock block inoperative	5
Lock block missing	4
Lock block key missing	–
Lock block trigger missing	–
Total	89

UNCOUPLING MECHANISM

Uncoupling lever broken	106
Uncoupling lever wrong	16
Uncoupling lever bent	45
Uncoupling lever incorrectly applied	9
Uncoupling lever missing	29
Uncoupling chain broken	417
Uncoupling chain too long	5
Uncoupling chain too short	3
Uncoupling chain kinked	1
Uncoupling chain missing	37
End casting broken	8
End casting wrong	–
End casting bent	2
End casting loose	1
End casting incorrectly applied	–
End casting missing	3
Keeper broken	9
Keeper wrong	1
Keeper bent	2
Keeper loose	7
Keeper incorrectly applied	1
Keeper missing	13
Angle clip loose	2
Total	717

HANDHOLDS

Handhold broken	4
Handhold bent	186
Handhold loose	21
Handhold incorrectly applied	11
Handhold missing	12
Total	234

HEIGHT OF COUPLERS

Coupler too high	1
Coupler too low	4
Carrier iron loose	39
Total	44

AIR BRAKES

Triple valve defective	5
Triple valve missing	–
Reservoir defective	–
Reservoir loose	1
Cylinder defective	19
Cylinder loose	27
Cylinder and triple valve not cleaned within twelve months	224
Cylinder and triple valve not stencilled with date of cleaning	13
Cut out cock defective	81
Release cock defective	6
Release cock missing	1
Release rod broken	199
Release rod missing	148
Angle cock defective	120
Angle cock missing	4
Train pipe broken	11
Train pipe loose	157
Train pipe bracket missing	38
Cross-over pipe defective	17
Hose defective	–
Hose missing	47
Hose gasket missing	1
Retaining valve defective	41
Retaining valve missing	3
Retaining pipe defective	151
Retaining pipe missing	3
Brake cut out	1,399
Brake cut out, card old	6
No brake of any kind	2
Pump missing	–
Brake rigging defective	201
Total	2,925

LADDERS

Ladder round broken	19
Ladder round bent	141
Ladder round loose	16
Ladder round missing	7
Ladder loose	12
Ladder incorrectly applied	59
Total	254

SILL STEPS

Sill step broken	8
Sill step bent	247
Sill step loose	21
Sill step incorrectly applied	4
Sill step missing	10
Total	290
MISCELLANEOUS—Total	330
Grand Total	4,883

No. 21A.—Statement of Defects on Freight Cars Shown Separately for Two Years Ending March 31, 1919, Nine Months Ending December 31, 1919, Twelve Months Ending December 31, 1920, and Twelve Months Ending December 31, 1921.

——	1918	1919	Nine months ending Dec. 31, 1919	Twelve months ending Dec. 31, 1920	1921	Total
Couplers and parts	54	109	71	139	89	462
Uncoupling mechanism	470	809	398	657	717	3,051
Handholds	158	152	55	123	234	722
Air brakes	1,710	2,959	1,507	2,318	2,925	11,419
Ladders	97	142	71	166	254	730
Sill steps	158	236	179	249	290	1,112
Height of couplers	6	11	9	21	44	91
Miscellaneous	214	342	92	97	330	1,075
	2,867	4,760	2,382	3,770	4,883	18,662

No. 21B.—Statement of Cars Inspected and Defective Shown Separately for Two Years Ending March 31, 1919, Nine Months Ending December 31, 1919, Twelve Months Ending December 31, 1920, and Twelve Months Ending December 31, 1921.

——	1918	1919	Nine months ending Dec. 31st 1919	Twelve months ending Dec. 31st, 1920	1921	Total
Cars inspected	52,224	77,261	45,781	66,108	76,789	318,253
Cars defective	2,499	4,232	2,142	3,135	4,352	16,360
Percentage defective	4·79	5·48	4·67	4·74	5·66	5·10

No. 22.—Statement Showing Number of Engines Inspected by Railways, Together with Defects, for Twelve Months Ending December 31, 1921.

Locomotive defects	C.P.R.	G.T.R.	M.C.R	Wabash	C.N.R.	E.D. & B.C.	P.M.R.	G.T.P.	A.E.R.	A.C.R.	Q. M. & S.	G.N.R.	K.V.R.	West Pwr.	Maine Central
1. Air compressors	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2. Arch tubes	7	24	2	–	–	–	1	–	–	–	–	–	–	–	–
3. Ash pans or mechanism	1	–	–	–	1	–	–		–	–	–	–	–	–	–
4. Axles	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
5. Blow-off cocks	5	4	1	–	–	–	–	–	–	–	–	–	–	–	–
6. Boiler checks	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–
7. Boiler shell	5	2	–	1	1	–	–	–	–	–	–	–	–	–	–
8. Brake equipment	4	2	–	–	5	–	–	–	–	–	–	–	–	–	–
9. Cabs or cab windows	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–
10. Cab aprons or decks	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
11. Cab cards	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
12. Coupling or uncoupling devices	13	2		–	3	–	–	4	–	1	–	–	2	–	–
13. Crossheads, guides, pistons or piston rods	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–
14. Crown bolts	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
15. Cylinders, saddles or steam chests	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
16. Cylinder cocks or rigging	–	1	–	–	–	–	–		–	–	–	–	–	–	–
17. Domes or dome caps	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–
18. Draft gear	4	23	1	–	2	–	–	–	–	–	–	–	–	–	–
19. Draw gear	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
20. Driving boxes, shoes, wedges, pedestals and braces	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–
21. Fire-box sheets	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
22. Flues	3	–	1	–	–	–	–	–	–	–	–	–	–	–	–
23. Frames, tail-pieces, or braces, locomotive	1	4	–	7	–	–	–	–	–	–	–	–	–	–	–
24. Frames, tender	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
25. Gauges or gauge fittings, air	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
26. Gauges or gauge fittings, steam	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–
27. Gauge cocks	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
28. Grate shakers	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–
29. Handholds	42	19	–	–	22	–	1	4	4	1	–	–	3	–	–
30. Injectors inoperative	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–
31. Injectors and connections	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
32. Inspection or test not made as required	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
33. Lateral motion	23	10	–	1	1	..	–	–	–	–	–	–	–	–	–

34. Lights, cab or classification	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
35. Lights, headlights	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
36. Lubricator or shields	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
37. Mudrings	15	8	3	–	–	–	–	–	–	–	–	–	–	–	–
38. Packing nuts	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–
39. Packing, piston rod and valve stem	1	–	–	–	3	–	–	–	–	–	–	–	–	–	–
40. Pilots or pilot beams	14	3	–	–	–	–	–	–	–	–	–	–	–	–	–
41. Plugs or studs	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
42. Reversing gear	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
43. Rods, main or side, crank pins or collars	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
44. Safety valves	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
45. Sanders	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
46. Springs or spring rigging	14	32	–	–	2	–	–	–	–	–	–	–	–	–	–
47. Squirt hose	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
48. Staybolts	4	2	1	–	–	–	–	–	–	–	–	–	–	–	–
49. Staybolts broken	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
50. Steam pipes	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
51. Steam valves	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
52. Steps	24	11	1	4	23	–	–	4	–	1	–	3	–	–	–
53. Tanks or tank valves	24	6	1	–	–	–	–	–	–	–	–	–	–	–	–
54. Telltale holes	–	–	1	–	1	–	–	–	–	–	–	–	–	–	–
55. Throttle or throttle rigging	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
56. Trucks, engine or trailing	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–
57. Trucks, tender	1	4	1	–	1	–	–	–	–	–	–	–	–	–	–
58. Valve motion	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
59. Washout plugs	6	2	–	1	–	–	–	–	–	–	–	–	–	–	–
60. Water bar or combustion flues	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
61. Waterglass, fittings or shields	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
62. Wheels	32	35	1	1	12	–	–	–	–	4	–	–	3	–	–
63. Miscellaneous, signal appliances, badge, plates, brakes (hand)	34	7	4	–	19	–	–	2	–	–	–	–	–	–	–
64. Fire protective appliances	134	17	1	2	144	7	–	1	6	7	1	11	20	2	3
Number of defects	421	226	20	17	242	7	2	15	10	14	1	14	28	2	3
Locomotives inspected	4,826	3,815	478	108	2,317	51	54	46	44	73	31	95	87	10	4
Locomotives defective	354	200	20	17	215	7	2	6	8	14	1	14	25	2	3
Percentage inspected, found defective	7	5	4	16	9	14	4	13	18	19	3	15	29	20	75

No. 22.—Statement Showing Number of Engines Inspected, by Railways, Together with Defects, for Twelve Months Ending December 31, 1921.—*Concluded.*

Locomotive defects	H. & S.W.	Q. C.R.	Temis.	A.Q. & W.	Q.O.R.	E.&N.	W.J.T.	T.H. & B.	B. &M.	Fred. & Grd. Lake	D.A.R	O.& N.Y.	C.V.R.	N.B. Ry. & Coal	W.P. & Y.	Total defects
1. Air compressors	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2. Arch tubes	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	34
3. Ash pans or mechanism	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2
4. Axles	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
5. Blow-off cocks	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	10
6. Boiler checks	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
7. Boiler shell	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	9
8. Brake equipment	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	11
9. Cab or cab windows	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	3
10. Cab aprons or decks	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–
11. Cab cards	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
12. Coupling or uncoupling devices	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	27
13. Crossheads, guides, pistons or piston rods	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3
14. Crown bolts	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
15. Cylinders, saddles or steam chests	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
16. Cylinder cocks or rigging	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
17. Domes or dome caps	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
18. Draft gear	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	30
19. Draw gear	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
20. Driving boxes, shows, wedges, pedestals and braces	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
21. Fire-box sheets	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
22. Flues	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4
23. Frames, tail-pieces, or braces, locomotive	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	12
24. Frames, tender	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	2
25. Gauges or gauge fittings, air	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
26. Gauges or gauge fittings, steam	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
27. Gauge cocks	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
28. Grate shakers	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
29. Handholds	3	10	–	–	–	–	–	–	–	–	–	–	–	–	–	109
30. Injectors inoperative	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2
31. Injectors and connections	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
32. Inspection or test not made as required	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
33. Lateral motion	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	35
34. Lights, cabs or classification	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
35. Lights, headlights	–	–	–	–	–	–	–	–	–	–	3	–	–	–	–	3
36. Lubricator or shields	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1

37. Mudrings	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	27
38. Packing nuts	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
39. Packing, piston rod and valve stem	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4
40. Pilots or pilot beams	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	17
41. Plugs or studs	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
42. Reversing gear	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
43. Rods, main or side, crank pins or collars	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
44. Safety valves	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
45. Sanders	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
46. Springs or spring rigging	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	48
47. Squirt hose	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
48. Staybolts	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7
49. Staybolts broken	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
50. Steam pipes	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
51. Steam valves	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
52. Steps	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	71
53. Tanks or tank valves	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	31
54. Telltale holes	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2
55. Throttle or throttle rigging	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
56. Trucks, engine or trailing	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2
57. Trucks, tender	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7
58. Valve motion	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
59. Washout plugs	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	9
60. Water bar or combustion flues	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
61. Waterglass, fittings or shields	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
62. Wheels	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	92
63. Miscellaneous, signal appliances, badge plates, brake (hand)	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	67
64. Fire protective appliances	–	–	2	1	1	–	–	3	3	–	–	–	–	1	–	367
Number of defects	8	10	2	1	3	–	–	5	3	–	5	–	–	1	–	1,060
Locomotives inspected	36	128	20	2	22	28	16	132	29	10	42	24	13	1	17	12,559
Locomotives defective	8	10	2	1	3	–	–	4	3	–	3	–	–	1	–	923
Percentage inspected, found defective	22	8	10	50	14	–	–	3	10	–	7	–	–	100	–	7

APPENDIX "E"

REPORT OF THE CHIEF FIRE INSPECTOR OF THE BOARD FOR THE TWELVE MONTHS ENDING DECEMBER 31, 1921.

Mr. A. D. Cartwright,
Secretary, Board of Railway Commissioners,
Ottawa.

Sir,—I have the honour to submit for the seventeenth annual report of the Board, the annual report of the Fire Inspection Department for year ending December 31, 1921.

ORGANIZATION

As in previous years, co-operation has been maintained with the several Dominion and provincial forest protective organizations, under which certain officials and employees of such organizations have been designated as local inspectors for the Fire Inspection Department.

RAILWAY FIRE PATROLS

There is a distinct tendency toward placing more and more reliance upon the section forces and other regular employees of the railway, in connection with the maintenance of patrols, including the reporting and extinguishing of fires. Progress in this direction has been made on a number of railways, including particularly the Canadian Pacific Eastern and Western lines, where special patrol by section forces has now become the standard requirement, subject to certain stated stipulations calculated to ensure efficient service.

This method of handling special patrols is not, however, adapted to railway lines where the right of way is not, generally speaking, in good condition, or where section crews are so depleted that they can not be expected to be able to spare the time required for this duty. Close supervision is also required where special patrols are to be maintained by section forces, to ensure that the service will actually be performed. Where the work is properly done, however, excellent results are secured, although very possibly at a higher cost than where special men are provided for patrol service. On the other hand, more efficient protection may be secured through placing the responsibility upon the regular organization of the railway company.

FIRE STATISTICS

A grand total of 1,505 fires from all causes were reported as having originated within 300 feet of railway lines in forested territory, along railways subject to the jurisdiction of the Board, as follows:—

Provinces	Number of Fires	Per cent of Total
British Columbia	529	35.2
Prairie Provinces	345	22.9
Ontario	301	20.0
Quebec	211	14.0
New Brunswick	32	2.1
Nova Scotia	87	5.8
Totals	1,505	100.0

Of this grand total 641, or 42·6 per cent, are class A fires, covering less than one-fourth acre each, and doing no damage, while 864, or 57·4 per cent, are class B fires, which burned over 101,616 acres and destroyed forest growth, and forest products valued at $138,878, and other property valued at $23,737, a total of $162,615.

Of the grand total, 1,160 fires, or 77·1 per cent, were definitely attributed to railway agencies; 101 fires, or 6·7 per cent, to known causes other than railways; and 244 fires, or 16·2 per cent, to unknown causes.

Of the total area of 101,616 acres burned over, 73·3 per cent is chargeable to railway causes, 17·8 per cent to known causes other than railways, and 8·9 per cent to unknown causes.

Of the total estimated damage, amounting to $162,615, the railways are definitely charged with 39·3 per cent, 42·5 per cent is due to known causes other than railways, and 18·2 per cent to unknown causes.

Of the 1,160 fires which the railways are definitely charged with having caused 1,093, or 72·6 per cent of the grand total, are attributed to sparks from locomotive stacks and fire escaping from ashpans of locomotives, and 67 fires, or 4·5 per cent of the grand total, to employees.

The number of fires set by locomotive sparks still continues high, particularly on Canadian National Western Lines. This may in part still be attributed to the partial use as locomotive fuel, particularly in northern Alberta, of sub-bituminous non-coking coal with standard front-end fire-protective appliances. Experience here and elsewhere shows that where this class of coal is to be used as locomotive fuel, special spark-arresting devices are essential, in the public interest, as well as in that of the railways.

SUMMARY of Reports on Fires in Forest Sections originating within 300 feet of Track on Railway Lines subject to the Jurisdiction of the Board of Railway Commissioners for Canada, Season of 1921.

	Canadian Pacific (Western Lines) (a)	Canadian Pacific (Eastern Lines) (b)	Canadian National (Western Lines) (c)	Canadian National (Eastern Lines) (c) (d)	Grand Trunk	Great Northern	Edmonton Dunvegan and British Columbia	Algoma Central and Hudson Bay	Miscellaneous (e)	Totals
A. RAILWAY FIRES										
1. *Number by Causes*—										
(a) Locomotives, Class A fires	135	41	237	75	5	24	2	.....	15	534
Locomotives, Class B fires	121	115	195	71	7	25	5	1	19	559
(b) Employees, Class A fires	3	.....	3	1	.....	.....	.....	.....	.....	7
Employees, Class B fires	11	9	21	17	1	.....	.....	.....	1	60
(c) Total of Class A fires	138	41	240	76	5	24	2	.....	15	541
Total of Class B fires	132	124	216	88	8	25	5	1	20	619
Total of all railway fires	270	165	456	164	13	49	7	1	35	1,160
2. *Areas burned (Acres)*—										
(a) Young forest growth	32	3,336	284	9,667	10	599	2	25	3,326	17,281
(b) Timber land	32	117	50	10,633	.....	42	.....	25	110	11,009
(c) Slashing or old burn	299	860	1,467	18,926	513	1,436	20	100	340	23,961
(d) Other classes of land	1,337	3,635	3,816	10,659	.....	2,548	2	.....	217	22,214
(e) Total	1,700	7,948	5,617	49,885	523	4,625	24	150	3,993	74,465
3. *Value of property destroyed*—										
(a) Young forest growth	$ 75	$ 1,958	$ 674	$ 6,067	$	$ 2,918	$ 4	$ 15	$18,400	$ 30,111
(b) Standing timber	157	1,162	263	15,857	.....	29	.....	30	675	18,173
(c) Forest products	120	19	1,075	.....	.....	.....	.....	.....	.....	1,214
(d) Other property	91	5,080	1,899	2,934	346	3,251	.....	.....	740	14,341
(e) Total	$ 443	$ 8,219	$ 3,911	$ 24,858	$ 346	$ 6,198	$ 4	$ 45	$19,815	$ 63,839
B. KNOWN CAUSES OTHER THAN RAILWAY FIRES										
1. *Number by Causes*—										
(a) Campers and travellers, Class A fires	9	1	3	1	.....	1	1	.....	.....	16
Campers and travellers, Class B fires	7	6	.....	6	.....	.....	3	1	1	24
(b) Settlers, Class A fires	.....	.....	1	2	.....	.....	.....	.....	.....	3
Settlers, Class B fires	1	8	4	17	.....	.....	.....	.....	1	31

(c) Other known causes, Class A fires	2	.....	1	1	.....	.....	1	.....	.....	5
Other known causes, Class B fires	2	9	10	.....	.....	.....	.....	.....	1	22
(d) Total of Class A fires	11	1	5	4	.....	1	2	.....	.....	24
Total of Class B fires	10	23	14	23	.....	.....	3	1	3	77
Total of all known causes	21	24	19	27	.....	1	5	1	3	101
2. *Areas burned (Acres)*—										
(a) Young forest growth	4	27	4	47	.....	.....	.....	.....	2,322	2,404
(b) Timber land	2,000	1	.....	.....	.....	.....	.....	1	200	2,202
(c) Slashing or old burn	10,081	121	1,183	902	.....	.....	.....	.....	280	12,567
(d) Other classes of land	6	538	296	20	.....	.....	6	4	18	888
(e) Total	12,091	687	1,483	969	.....	.....	6	5	2,820	18,061
3. *Value of property destroyed*—										
(a) Young forest growth	$ 1	$ 18	$.....	$ 225	.....	.....	.....	.....	$ 808	$ 1,052
(b) Standing timber	1,500	.....	.....	.....	.....	.....	.....	15	360	1,875
(c) Forest products	.....	.....	61,179	.....	.....	.....	.....	.....	738	61,917
(d) Other property	2,000	511	300	3	.....	$ 250	.....	.....	1,185	4,249
(e) Total	$ 3,501	$ 529	$61,479	$ 228	.....	$ 250	.....	$ 15	$ 3,091	$69,093
C. Fires of Unknown Origin										
1. *Number*—										
(a) Total of Class A fires	18	22	14	16	2	.....	.....	2	2	76
(b) Total of Class B fires	25	65	15	38	.....	.....	.....	14	11	168
(c) Total of all unknown fires	43	87	29	54	2	.....	.....	16	13	244
2. *Areas burned (Acres)*—										
(a) Young forest growth	.....	233	.....	116	.....	.....	.....	1,586	8	1,943
(b) Timber land	1	8	.....	4	.....	.....	.....	2,740	.....	2,753
(c) Slashing or old burn	4	295	98	33	.....	.....	.....	2,505	.....	2,935
(d) Other classes of land	55	157	266	85	.....	.....	.....	869	27	1,459
(e) Total	60	693	364	238	.....	.....	.....	7,700	35	9,090
3. *Value of property destroyed*—										
(a) Young forest growth	$.....	$ 390	$.....	$ 332	$	.....	$.....	$ 790	$ 70	$ 1,582
(b) Standing timber	.....	50	.....	61	.....	.....	.....	1,420	.....	1,531
(c) Forest products	21,217	200	.....	6	.....	.....	.....	.....	.....	21,423
(d) Other property	21	1,573	19	3,093	6	.....	.....	400	35	5,147
(e) Total	$21,238	$ 2,213	$ 19	$ 3,492	$ 6	.....	.....	$ 2,610	$ 105	$ 29,683

SUMMARY of Reports on Fires in Forest Sections originating within 300 feet of Track on Railway Lines subject to the Jurisdiction of the Board of Railway Commissioners for Canada, Season of 1921.—*Concluded.*

	Canadian Pacific (Western Lines)(a)	Canadian Pacific (Eastern Lines) (b)	Canadian National (Western Lines) (c)	Canadian National (Eastern Lines) (c) (d)	Grand Trunk	Great Northern	Edmonton Dunvegan and British Columbia	Algoma Central and Hudson Bay	Miscellaneous (e)	Totals
D. GRAND TOTALS FOR ALL CAUSES										
1. *Number*—										
(a) Total of all Class A fires	167	64	259	96	7	25	4	2	17	641
(b) Total of all Class B fires	167	212	245	149	8	25	8	16	34	864
(c) Total of all fires reported	334	276	504	245	15	50	12	18	51	1,505
2. *Areas burned (Acres)*—										
(a) Young forest growth	36	3,596	288	9,830	10	599	2	1,611	5,656	21,628
(b) Timber land	2,033	126	50	10,637	.....	42	.....	2,766	310	15,964
(c) Slashing or old burn	10,384	1,276	2,748	19,861	513	1,436	20	2,605	620	39,463
(d) Other classes of land	1,398	4,330	4,378	10,764	.....	2,548	8	873	262	24,561
(e) Total	13,851	9,328	7,464	51,092	523	4,625	30	7,855	6,848	101,616
3. *Value of property destroyed*—										
(a) Young forest growth	$ 76	$ 2,366	$ 674	$ 6,624	$.....	$ 2,918	$ 4	805	$19,278	$ 32,745
(b) Standing timber	1,657	1,212	263	15,918	.....	29	.....	1,465	1,035	21,579
(c) Forest products	21,337	219	62,254	6	.....	.....	.....	.....	738	84,554
(d) Other property	2,112	7,164	2,218	6,030	352	3,501	.....	400	1,960	23,737
(e) Total	$25,182	$10,961	$64,669	$28,578	$ 352	$ 6,448	$ 4	$ 2,670	$23,011	$162,615

(a) Includes Esquimalt and Nanaimo and Kettle Valley Railways.
(b) Includes Dominion Atlantic, Fredericton and Grand Lake Coal and Railway, New Brunswick Coal and Railway and Quebec Central Railway.
(c) Includes Canadian National Railway lines subject to the Board's jurisdiction. Excludes Canadian Government Railways (Transcontinental, Intercolonial and Hudson Bay Railways.)
(d) Includes Halifax and South Western Railway.
(e) Includes following lines: Algoma Eastern; Atlantic, Quebec and Western; Boston and Maine; Cumberland Railway and Coal Company; Maritime Coal Railway and Power Company; Maine Central; Quebec Oriental; Temiscouata.

NOTE:—No fires were reported during 1921 as originating within 300 feet of track along the following lines: Ottawa and New York; Quebec, Montreal and Southern; Western Power Company of Canada; White Pass and Yukon Route.

Class A fires are those which cover an area of less than one-fourth acre.

Class B fires are those which cover an area of one-fourth acre or more.

FIRE GUARD STATISTICS

The statistical fireguard report for 1921 shows 14,784·21 track miles of railway lines in the Prairie Provinces subject to the fireguard requirements, an increase ot 473·61 miles over 1920. This is equivalent to 29,568·42 fireguard miles, since fireguards are required to be maintained on both sides of the track.

The report indicates that 10,270·51 miles of fireguards were constructed or maintained during the past year, and 19,297·91 miles were, for various reasons, not constructed. Of this, there were exempted by this department, 8,990·74 miles; owner of land refused to allow construction, 144·15 miles; land already ploughed, 2,842·07 miles; grain stubble and cultivated hay lands not fireguarded by owner, 5,583·29 miles. Thus, as to a total of 17,560·25 miles of fireguards not constructed, the reasons assigned by the companies were considered acceptable, leaving 1,737·66 miles unaccounted for, but which presumably should have been fireguarded.

SUMMARY of Firguard Construction and Maintenance by Railways in the Provinces of Manitoba, Saskatchewan and Alberta, 1921.

—	Edmonton, Dunvegan and British Columbia and Central Canada	Great Northern	Canadian National	Canadian Pacific	Totals
Length in track miles	455·30	162·38	7,762·60	6,403 93	14,784·21
Length in fireguard miles[1]	910·60	324·76	15,525·20	12,807·86	29,568·42
Fire guards constructed (shown in fire-guard miles)—					
Grain stubble lands } Fireguarded	30·70	200·50	1,438 05	2,081·05	3,750·30
Cultivated hay lands } by owner.	4·50	40·00	229·80	150·55	424·85
Fenced grazing lands	0·50	49·00	1,023·58	2,043·33	3,116·41
Wild lands	.....	1·50	1,266·75	1,710 70	2,978·95
Total miles of fire-guards constructed	35·70	291·00	3,958·18	5,985 63	10,270·51
Fire-guards not constructed (shown in fire-guard miles)—					
Exemptions[2]	778·70	30·00	5,615·04	2,567·00	8,990·74
Owner refuses to allow construction[3]	.....	.....	27·50	116·65	144·15
Unnecessary; land already plowed[4]	6·00	.....	1,460·78	1,375·29	2,842·07
Grain stubble lands } Not fireguarded	56·50	.....	3,203·67	1,779·75	5,039·92
Cultivated hay lands } by owner[5]	7·40	.....	380·37	155·60	543·37
Miscellaneous other reasons	26·30	3·76	879·66	827·94	1,737·66
Total miles of fire-guards not constructed	874·90	33·76	11,567·02	6,822·23	19,297·91

[1] Fire-guard mileage is double the track mileage, since the construction of fire-guards is required on both sides of the track.

[2] Company exempted from fire-guard construction, as to portions of line where showing made that such construction is unnecessary or impracticable.

[3] Employees of railway company refused permission, by owner, to enter upon land for purpose of constructing fire-guards.

[4] Fire-guarding unnecessary, because fields already plowed.

[5] Fire-guarding in grain stubble and in cultivated hay lands required only where the land owner or occupant will undertake to plow guard at the reasonable price specified by the Board, to be paid by the railway company.

FIRE-PROTECTIVE APPLIANCES ON LOCOMOTIVES

During the fire season, 2,861 inspections of fire protective appliances on locomotives, operating through forested territory, were made by officers of the Fire Inspection Department. Of this total, the fire-protective appliances of 291 locomotives, or 10·2 per cent, were found to be in a defective condition.

INSPECTIONS of Locomotive Fire-Protective Appliances, 1921. By Fire Inspection Department

Railway	Province	Number Inspected	Number Defective	Per cent Defective
Canadian Pacific, including Quebec Central and Esquimalt and Nanaimo.	New Brunswick	58	28	48·3
	Quebec	186	5	2·7
	Ontario	720	57	7·9
	Prairie Provinces	2	0	0·0
	British Columbia	259	19	7·3
Total		1,225	109	8·9
Canadian National Railways	Quebec	80	3	3·7
	Ontario	508	55	10·8
	Prairie Provinces	231	49	21·2
	British Columbia	241	17	7·0
Total		1,060	124	11·7
Grand Trunk Railway	Quebec	29	.....	
	Ontario	247	7	2·8
Total		276	7	2·5
A.Q. & W. and Q.O.	Quebec	16	2	12·5
A.C. & H.B.	Ontario	34	7	20·6
A. E.	Ontario	28	6	21·6
G.N.R.	British Columbia	65	7	10·7
K.V.R.	British Columbia	51	15	29·4
E.D. & B.C.	Alberta	33	7	21·2
Temiscouata	Quebec	14	2	14·3
Maine Central	Quebec	2	1	50·0
Q.M. & S.	Quebec	27	1	3·7
B. & M.	Quebec	5	1	20·0
W.C.P. Co.	British Columbia	8	2	25·0
W.P. & Y.R.	Yukon	17	.....	
Total all railways		2,861	291	10·2

OIL FUEL

Oil as locomotive fuel was used exclusively on 793 miles of track during the past year, distributed as follows: Canadian National Railways (Grand Trunk Pacific Railway), between Prince George and Prince Rupert, 468 miles; Canadian Pacific Railway, British Columbia District, between Field and Revelstoke, 126 miles; Esquimalt and Nanaimo Railway, 199 miles.

On the Canadian Pacific Railway between Revelstoke and Kamloops, 129 miles, oil fuel was used only on locomotives in passenger service.

The use of oil was totally discontinued on 322 miles of track distributed as follows: all Great Northern Railway lines in Southern British Columbia; Canadian Pacific Railway lines between North Bend and Vancouver, and on the Arrow Lake and Okanagan subdivisions.

Respectfully submitted,

CLYDE LEAVITT,

Chief Fire Inspector, B.R.C.

APPENDIX "F"

THE BOARD OF RAILWAY COMMISSIONERS FOR CANADA

RECORD ROOM

List of cases appealed to the Supreme Court of Canada, from February 1, 1904, to December 31, 1921.

File No.	Subject	Decision
643	Montreal Terminal Railway *vs.* Montreal Street Railway, Pius IX Ave., upon question of jurisdiction	Allowed
1455	James Bay Railway *vs.* G.T.R., undercrossing at a point near Beaverton, Ont., Lot 13, Con. 7, Tp. of Thorah	Dismissed
1492	James Bay Railway *vs.* G.T.R., crossing Belt Line spur. Question of law	Dismissed
383	Ottawa Electric Railway and City of Ottawa *vs.* Canada Atlantic Railway, *re* Bank St. subway, Ottawa. Question of law	Dismissed
1621	Toronto Railway Co., against Order 7813, July 3rd, 1909, *re* high level bridge over Don Improvement and tracks of G.T.R. and C.P.R., Toronto. Question of jurisdiction	Dismissed
588	*Re* Toronto Union Station. A. R. Williams expropriation. Question of jurisdiction	Dismissed
C. 1680	Essex Terminal Railway and W. E. & L.S.R.R. crossing in the Township of Sandwich, Ont. Question of law	Dismissed
C. 1309	Robinson *vs.* G.T.R., two-cent rate. Question of law	Dismissed
689	C.P.R. *vs.* G.T.R. *re* branch line at London, Ont. Question of jurisdiction.	Dismissed
1497	T. D. Robinson *vs.* C.N.R., spur at Winnipeg. Question of jurisdiction	Dismissed
9527	Montreal Street Railway, *re* rates, Mount Royal Ward. Question of jurisdiction	Allowed
C. 1419	Ontario Department of Agriculture *vs.* G.T.R., *re* station at Vineland, Ont. Jurisdiction	Dismissed
C. 3322	*Re* Toronto Viaduct. Appeal of C.P.R., on question of law	Dismissed
C. 4897	*Re* fencing and cattle guards, Order 7473. Appeal of C.N.R. upon question of jurisdiction	Allowed
C. 4492 C. 3378	City of Toronto *vs.* G.T.R. and C.P.R., *re* commutation rates. Question of law	Withdrawn
C. 2545	City of Ottawa and County of Carleton *re* Richmond Road Viaduct. Question of jurisdiction	Dismissed
13079	G.T.R. and C.N.O.R., *re* spur in Township of Scarboro, Ont. Question of jurisdiction	Dismissed
C. 3269	G.T.R. *vs.* British American Oil Cos., *re* oil rates. Question of law	Dismissed
1519	G.T.P.R. *vs.* City of Fort William, Ont., *re* location. Question of jurisdiction	Dismissed
11965	N. St. C. & T. Railway *vs.* Davy. Question of jurisdiction	Allowed
15580	Clover Bar Coal Co., and Wm. Humberstone *vs.* G.T.P. and the Clover Bar Sand and Gravel Co. Question of jurisdiction	Dismissed
12682	Regina Rates Case. Question of law	Dismissed
17963	G.T.P.R. *vs.* A. E. Purcell of Saskatoon, Sask. Question of jurisdiction	Dismissed
C. 3269	C.P.R. *vs.* British American Oil Companies. Question of jurisdiction	Dismissed
15330 15330.1	G.T.R. and C.P.R. *vs.* Canadian Oil Companies. Question of jurisdiction.	Dismissed
20062	B.C. Electric Railway, V.V. & E. Railway *vs.* City of Vancouver, B.C. Question of jurisdiction	Dismissed
1487	E. B. Chambers and W. B. G. Phair *vs.* C.P.R. Question of jurisdiction	Allowed
18578	C.N.R. *vs.* Wm. A. Taylor. Question of jurisdiction	Dismissed
19435	G.T.R. *vs.* City of Edmonton. Question of law	Dismissed
14329·9	Montreal Tramways and M.P. & I. Railway *vs.* Lachine, Jacques Cartier and Maisonneuve Railway. Jurisdiction	Allowed
23009	City of Hamilton *vs.* T.H. & B. Railway. Question of jurisdiction	Allowed
21428	G.T.R. *vs.* Hepworth Silica Pressed Brick Co. Question of law	Dismissed
12021·70 9437·153	Toronto Railway Co. and City of Toronto *vs.* C.P.R. Question of law and jurisdiction	Dismissed

LIST of cases appealed to the Supreme Court of Canada, etc.—*Concluded.*

File No.	Subject	Decision
C. 3935	City of Edmonton *vs.* E.D. & B.C. Railway. Question of law	Dismissed
16171	Ingersoll Telephone Co., and other *vs.* Bell Telephone Co. Question of law	Dismissed
27524	G.T.R. *vs.* H. Bourassa of Laprairie, Que. Question of law and jurisdiction	Withdrawn
13622	G.N.W. Telegraph Co. submits for opinion of Court a question of law involved in matter of General Order No. 162	Abandoned
27840	Government of Manitoba and J. H. Ashdown Hardware Co., *re* 15 per cent increase in freight rates. Question of jurisdiction	Abandoned
26981	C.P.R. *vs.* Department of Public Works for Ontario, *re* crossing in Township of Kirkpatrick. Question of law	Withdrawn
11118	Esquimalt and Nanaimo Railway *re* rights of City of Victoria to have access over bridge at Victoria Harbour. Question of jurisdiction	Abandoned
28439	Municipality of Burnaby, B.C., *vs.* British Columbia Electric Railway, *re* commutation rates. Question of jurisdiction	Abandoned
28950	City of Toronto *vs.* Toronto Terminal Railway *re* pressure pipes under Bay, Scott, and Yonge streets, Toronto. Question of law	Dismissed
C. 3378	Application of Mr. Wegenast for a stated case in *re* Brampton commutation rates. Question of law	Dismissed
C. 2987	Ottawa Electric Railway, against Order of Board disallowing proposed increase in passenger rates. Question of jurisdiction	Allowed
21404-6	Board submits stated case for the opinion of the Court on question of jurisdiction in the matter of British Columbia Electric Railway Company's application for increased rates	Abandoned

SUMMARY

Dismissed	28
Allowed	9
Abandoned	5
Withdrawn	3
Total	45

LIST of Appeals to the Governor in Council, February 1, 1904, to December 31, 1921.

File No.	Subject	Decision
399	Bay of Quinte Railway crossing C.P.R., at Tweed, Ont	Dismissed.
1455	James Bay Railway *vs.* G.T.R., crossing near Beaverton	Dismissed
1781	G.T.R. *vs.* City of Chatham, Ont. Street crossings	Dismissed
12992	Maniwaki Branch of C.P.R., train service from Ottawa	Referred back
2030	*Re* tariffs of certain Yukon railways	Dismissed
17716	C.P.R.—Longue Pointe Spur through Town of Maisonneuve, Que	Dismissed
18787	South Hazelton Townsite *vs.* G.T.P.R	Allowed
3452·30	J. Y. Rochester *re* Cameron Bay *vs.* G.T.P.R	Dismissed
12912	Park Avenue, Subway, Town of St. Louis, Que., *vs.* C.P.R	Dismissed
17040	Lambton to Weston spur and C.P.R	Abandoned
C. 3322	Toronto Viaduct Case	Dismissed
12021·70	City of Toronto *re* North Toronto grade separation	Dismissed
16177	C.P.R. *vs.* Mountain Lumber Manufacturers Association *re* lumber rates	Withdrawn
19024	Charles Miller of Toronto *vs.* G.T.P.R. *re* station at Prince George, B.C.	Dismissed
17716·10	C.P.R. *vs.* Town of Maisonneuve, Que. Highway crossings	Dismissed
22681·25	City of Montreal *vs.* C.N.R., siding across Stadacona and Marlboro Streets, Montreal, Que	Abandoned
21418	City of Prince George, B.C., *re* location of G.T.P.R. station between Oak and Ash Streets	Dismissed
21660	C.N.O.R. *vs.* Township of Loughboro, Ont	Dismissed
26169	C.P.R. and C.N.R. Companies, *re* interswitching at Eastern Public Cattle Market, Montreal	Abandoned
17040	C.P.R. *re* Lambton to Weston Spur. (2nd Appeal)	Referred back
27693	City of Hamilton *vs.* G.T.R. *re* passenger service on Northern and N. W. Branch, between Hamilton and Burlington Beach and Town of Burlington, Ont	Abandoned
27840	Winnipeg Board of Trade *re* 15 per cent increase in rates	Dismissed
28439·3	Town of St. Lambert, Que., *re* increase in rates on the Montreal and Southern Counties Railway	Dismissed
28230	City of Hamilton, Ont., *re* Kinnear Yard, Hamilton	Referred back
29040·2	National Dairy Council of Canada on behalf of Canadian Association of Ice Cream Manufacturers, *re* classification of ice cream	Referred back
C. 955	Proprietors' League of Montreal, *re* increase in Bell Telephone rates	Dismissed
30434	City of Windsor, Ont., for order rescinding Order of Board No. 30028 authorizing C.P.R. to construct tracks of proposed freight shed at grade across unopened portion of Caron Avenue, Windsor	Dismissed
29996	City of Toronto against General Order No. 308 authorizing a general increase in freight rates	Referred back
C. 955	City of Toronto against Judgment of Board dated April 13, 1921, providing for increase in Bell Telephone rates	Abandoned
23092·2	C.N.Q. Railway Company, against Order No. 31312 *re* crossing Pointe aux Trembles Terminal Railway at Pointe aux Trembles, Que	Pending

SUMMARY

Dismissed	17
Referred back	5
Abandoned	5
Withdrawn	1
Allowed	1
Pending	1
Total	30

APPENDIX "G"

LIST OF GENERAL ORDERS AND CIRCULARS OF THE BOARD FOR THE YEAR ENDING DECEMBER 31, 1921

GENERAL ORDER No. 326

In the matter of the rate of exchange in connection with shipments of freight between points in Canada and points in the United States.

File Nos. 29674.1-2

Upon the matter being brought to the attention of the various railway companies and the Railway Association of Canada at the sittings of the Board held in Ottawa, December 14, 1920; and upon conferences subsequently held between the Board and representatives of the railway companies, boards of trade, and trade organizations,—

The Board Orders: That the railway companies subject to its jurisdiction be, and they are hereby, permitted to publish and file tariffs, effective January 22, 1921, showing, *inter alia,* the following, namely:—

"EXCHANGE SURCHARGE ON INTERNATIONAL SHIPMENTS, OTHER THAN COAL AND COKE, TO BE ADDED TO THE TOTAL THROUGH CHARGES, INCLUDING ADVANCED CHARGES PAYABLE TO UNITED STATES CARRIERS, WHEN PAYABLE AND COLLECTED IN CANADA.

"1. A surcharge of sixty per cent of the rate of exchange, arrived at in accordance with the provisions of this tariff, will be added to the total through charges, including advanced charges payable to United States carriers, on all shipments between Canada and the United States, in both directions, when such charges are payable and collected in Canada. When all charges are paid at United States points in United States funds, this surcharge will not be added.

"2. On shipments from Canada, the surcharge must be collected at the rate governing on the date of the bill of lading; and on shipments to Canada, at the rate governing on the date of advice note of arrival at the Canadian destination. Such surcharge will accrue entirely to the Canadian carrier.

"3. Telegraphic advice will be sent to railway agents in Canada on the last day of each month, specifying the surcharge to be collected from the first to the fourteenth (inclusive) of the following month; and on the fourteenth day of each month, specifying the surcharge to be collected from the fifteenth to the last day (inclusive) of such month. Agents must file such telegraphic advice with this tariff. The surcharge must be shown as a separate item on all bills of lading and waybills for outbound shipments and on all freight expense bills.

"*Exception.*—This tariff does not apply to export and import traffic from or to points of origin or destination in the United States via Canadian ports, on which all charges must be collected in United States currency or its equivalent.

"NOTE.—In arriving at the surcharge, the rate of exchange quoted for New York funds by the Bank of Montreal at noon in Montreal on the last day of each month will govern from the first to the fourteenth (inclusive) of the following month; similarly, such quotation at noon on the fourteenth will govern

from the fifteenth to the last day (inclusive) of such month. Should the governing date fall on a Sunday or Canadian or United States legal holiday, the noon quotation of the preceding day will govern.

"In determining the surcharge, fractions less than one-half will be disregarded and fractions of one-half or over will be counted as one per cent.

"The rate of exchange quoted for New York funds by the Bank of Montreal at noon, in Montreal, on the 21st January, will govern from the 22nd to the 31st, inclusive."

And the Board further Orders: That, until otherwise ordered, the companies make monthly returns to the Board showing the amount of surcharges collected.

F. B. CARVELL,
Chief Commissioner.

OTTAWA, January 14, 1921.

GENERAL ORDER No. 327

In the matter of the application of the Express Traffic Association of Canada, on behalf of the express companies subject to the jurisdiction of the Board, for an increase of forty per cent in the tolls at present in effect.

File No. 30380

Upon hearing the application at the sittings of the Board held in Toronto, Saskatoon, Edmonton, Prince Rupert, Victoria, Vancouver, Vernon, Nelson, Medicine Hat, Calgary, Regina, Winnipeg, Fort William, Moncton, Halifax, St. John, Montreal, and Ottawa on September 2 and 30, October 1, 6, 11, 13, 14, 18, 20, 22, 23, 26, and 27, November 15, 16, 18, and 19, and December 1 and 13, 1920, in the presence of counsel for and representatives of the Express Companies, the Express Traffic Association of Canada, the cities of Montreal and Toronto, Boards of Trade of Toronto, Saskatoon, Edmonton, Vancouver, Nelson, Calgary, Fort William, Sault Ste. Marie, Montreal, and Halifax, the Montreal Chamber of Commerce, Department of Agriculture for the Dominion Government, Department of Agriculture for Nova Scotia, Canadian Manufacturers' Association, Canadian Fisheries Association, Fisheries and Produce Association, British Columbia Fisheries, National Dairy Council, Canadian Creamery Association, Canadian Produce Association, United Farmers of Ontario, United Farmers of Alberta, United Fruit Growers, Niagara Fruit Growers, shippers of produce from Prince Edward Island and certain other shippers of fresh fish, Church & Company, Saskatoon Bread Company, Saskatoon Pure Milk Company, Modern Steam Laundry of Saskatoon, Saskatchewan Dairymen's Association, Alberta Dairy Association, Ogilvie Flour Mills Company, Alberta Box Company, Vernon Fruit Company, Calgary Brewing & Malting Company and Stock Growers' Protective Association, and what was alleged, and upon reading the written submissions filed, judgment, dated February 2, 1921, was delivered by the Chief Commissioner and concurred in by the other members of the Board who heard the application, a certified copy of the said judgment being attached hereto marked "A",—

The Board Orders: That the changes in the tariffs of the express companies subject to the jurisdiction of the Board, as set forth in the judgment, which is hereby made part of this Order, be, and they are hereby, authorized.

F. B. CARVELL,
Chief Commissioner.

OTTAWA, February 2, 1921.

GENERAL ORDER No. 328

In the matter of the question of the coal supply in Canada, and the General Order of the Board No. 301, dated July 22, 1920, prohibiting the exportation of coal from the Atlantic, St. Lawrence River and Gulf ports of Canada, except to the United States or to Newfoundland, unless otherwise permitted by the Board, as amended by General Order No. 312, dated September 24, 1920.

File No. 30331.51

Upon its appearing to the Board that there is not now a real or apprehended scarcity of coal rendering a continuance of the said orders necessary or advisable for the purpose of providing adequate coal supplies within Canada; and in pursuance of the powers conferred by the Act of the Parliament of Canada, chapter 66, 1920,—

The Board Therefore Orders: That the said General Orders Nos. 301 and 312, dated respectively July 22, 1920, and September 24, 1920, be, and they are hereby, rescinded.

F. B. CARVELL,
Chief Commissioner.

OTTAWA, February 12, 1921.

GENERAL ORDER No. 329

In the matter of the consideration of the question of authorizing the use of the Hart type of wooden packing for frogs, wing rails, guard rails, and switches, under the provisions of Section 282, of the Railway Act, 1919, on railways subject to the jurisdiction of the Board.

File No. 29343.1

Upon hearing the matter at the sittings of the Board held in Ottawa, February 1, 1921, the Canadian Pacific Railway Company, New York Central Railroad Company, Canadian National Railways, and Michigan Central Railroad Company being represented by counsel at the hearing, and what was alleged,—

The Board Orders: That the use of the Hart type of wooden packing for frogs, wing rails, guard rails, and switches on railways subject to the jurisdiction of the Board, be, and it is hereby, authorized.

F. B. CARVELL,
Chief Commissioner.

OTTAWA, February 17, 1921.

GENERAL ORDER No. 330

In the matter of the suggested Uniform Regulations regarding the Inspection of Railway Steam Boilers, other than Locomotive Boilers.

File No. 29110.1

Upon hearing the matter at the sittings of the Board held in Ottawa, January 18, 1921, the Canadian National Railways, Grand Trunk and Canadian Pacific Railway

Companies, and Michigan Central and New York Central Railroad Companies being represented at the hearing, and what was alleged; in pursuance of the powers conferred upon the Board by section 287 of the Railway Act, 1919, and of all other powers possessed by it in that behalf; and upon the report and recommendation of the Chief Operating Officer of the Board,—

The Board Orders: That the railway companies subject to its jurisdiction adopt and put into force, not later than the first day of June, 1921, the Regulations Regarding the Inspection of Railway Steam Boilers, other than Locomotive Boilers, namely:—

I

These rules shall apply to all steam boilers and their appurtenances operated by railway companies within the jurisdiction of the Board, except boilers of locomotives or boilers used solely for heating, which carry pressure not exceeding fifteen pounds per square inch.

II

The chief mechanical officer of each railway company will be held responsible for the general design, construction, and inspection of all boilers covered by these rules. He must know that all inspections are made in accordance with the rules, and that the defects disclosed by any inspections are properly repaired before the boiler is returned to service.

III

The working pressure of each boiler shall be determined by the mechanical engineer, using the formula commonly used in determining safe working pressure, and after a thorough inspection and report by a competent inspector. The minimum factor of safety allowed shall be four.

In determining safe working pressure, the maximum allowable stress shall be 7,500 pounds per square inch for stay-bolts and 9,000 pounds per square inch for round or rectangular braces supporting flat surfaces.

IV

Each boiler shall be given a serial number by the operating railroad. A metal badge plate showing this number and the safe working pressure shall be attached to each boiler.

V

Specifications of each boiler shall be kept on file in the office of the chief mechanical officer of the railway company. Within one year after this rule becomes effective, each railway company will file report (Form 1) with the chief mechanical officer of the railway company and a copy with the Board, for each boiler subject to these rules, giving all the data called for thereon.

VI

Each boiler shall have at least one safety valve of sufficient capacity to prevent an accumulation of pressure more than five per cent above the working pressure, and shall be connected direct to the boiler.

Safety valves shall be set at pressure not to exceed six pounds above the allowed working pressure.

Working safety valves on boiler shall be tested each day boiler is in use. Failure of safety valve to open before an excess pressure of ten pounds has been reached must immediately be reported to the proper authority and repairs made.

Not less frequently than once each six months, all safety valves on boiler shall be tested and adjustment made if necessary. At this test, as well as at all other tests where the safety valves are adjusted, two steam gauges shall be used, one of which shall be in full view of the person adjusting the valves.

VII

Each boiler shall have a steam gauge, graduated to at least fifty pounds above the working pressure, connected direct to steam space of boiler, equipped with a suitable siphon and with no more than one cock or valve between boiler and gauge. This cock to be located near steam gauge.

Steam gauges shall be tested at least once each six months, or whenever any irregularity is shown, and shall also be tested before any adjustment is made of the safety valves. Each time gauge is tested siphon pipe and cock must be cleaned and examined.

VIII

Each boiler shall have at least three gauge cocks and one waterglass, so located that the lowest reading shall be at least three inches above the lowest safe water line. Each water glass shall be equipped with a valve at each end of glass and with a blow-off or drain at bottom of glass. Gauge cocks, waterglass, and water column valves, cocks, and connection shall be maintained in an operative condition, free from leaks, and shall be cleaned of scale each time boiler is washed.

Suitable lights shall be provided for waterglass and steam gauge.

ANNUAL INSPECTION

IX

Before being placed in service, and not less than once each twelve months thereafter, each boiler shall be subjected to a hydrostatic pressure 25 per cent greater than the working pressure, and the boiler and appurtenances carefully examined while under pressure.

After hydrostatic pressure has been applied, a thorough inspection shall be made of every accessible part of the boiler. Manholes shall be removed to permit of interior inspection.

Boiler having lap joint longitudinal seams should be examined with special care, to detect grooving or cracks at edge of seams.

Water tube boilers should be examined with special care, to detect blistering on the tubes, tubes bending, and leakage or corrosion where tubes are fastened to headers.

Soot and cinders shall be cleaned from furnace and combustion chamber, and a thorough inspection made of the brick lining and setting, the fire wall, baffles, and grates.

Threaded and flange joints on steam header, steam pipe, and blow-off line shall be examined carefully for signs of corrosion or wasting.

After repairs are completed, the boiler must be fired up, safety valves set, and boiler and appurtenances examined. All cocks, valves, seams, pipes, flanges, and joints must be tight under this pressure.

All defects disclosed by any of the above inspections must be repaired before the boiler is returned to use.

A certified report of the inspection and repairs (Form 3) shall be filed with the chief mechanical officer of the railway company, and a copy sent to the Board.

X

Locomotive type boilers working under a pressure of 125 pounds or more should have the staybolts tested at least once each six months. Locomotive type boilers working under a pressure of less than 125 pounds, and vertical type boilers, to have staybolts tested annually. No boiler shall remain in service with five or more broken staybolts.

XI

Boilers shall be thoroughly washed as often as water conditions require. Special care shall be given to water tube boilers, to prevent an accumulation of scale in the tubes, and the tubes must be scraped if necessary. At washout periods, soot, ashes, and cinders shall be cleaned from furnace and combustion chamber, and brick lining, setting, and fire-wall examined.

SEMI-ANNUAL INSPECTION

XI-A

Not less frequently than once each six months, an inspection of the boiler under steam shall be made by a competent inspector. He shall test the safety valves, gauge cocks, and waterglass, blow-off valve, examine and test the feed pump or injectors, examine steam pipes for leaks, giving close attention to leaks around threaded joints, see that pipes are well braced, that all valves are operative, examine the netting of the boilers and the general condition of the boiler room, with special reference to fire risks.

He shall report any defects found to the division officer in charge and to the local officer in charge, so that prompt repairs can be made.

A certified report of the inspection and repairs (Form 2) shall be filed with the chief mechanical officer of the railway company, and a copy sent to the Board.

MISCELLANEOUS RULES

XII

Boilers in batteries connected to same steam header shall each have a suitable valve between boiler and header, which must be maintained in an operative condition.

XIII

Each steam outlet from boiler (except safety valve connections) shall be equipped with a suitable valve, which must be maintained in an operative condition.

XIV

Injectors and pumps must be kept in such condition that they will feed water into the boiler against the maximum pressure allowed on the boiler.

XV

Boilers with any of the following defects shall be withdrawn from service until after proper repairs are made: Cracks in cylindrical boilers or headers; bags or bulges in shells of external fired boilers or unstayed surfaces of internal fired boilers; bulges in arch or water tubes; more than one gauge cock inoperative; safety valve inoperative.

XVI

Boilers showing indications of having been low in water or of mud burning shall not be used until after inspection by a competent inspector.

XVII

Where necessary to plug flues, the plugs shall be tied together with a rod not less than three-quarters of an inch in diameter, and a report of same made to the officer in charge, who will have proper repairs made.

XVIII

When making internal inspection of one of a battery of boilers, another employee will be stationed outside of boiler, whose duty shall be to prevent steam valves from other boilers being opened into boiler being inspected.

XIX

An annual certificate of inspection shall be posted under glass, in a conspicuous place in the boiler room. This certificate shall also show the number of the boiler, the allowed working pressure, the date of inspection, and the signature of inspector. Inspection certificates may be made in triplicate, and copy filed with Provincial Inspector of Boilers, if desired.

F. B. CARVELL,
Chief Commissioner.

OTTAWA, February 16, 1921.

BOARD OF RAILWAY COMMISSIONERS FOR CANADA

Form 1

STATIONARY BOILER REPORT

(Insert name of Railway)

Specification card, boiler No. . . . . .

1. Location. . . . . .
2. Service. . . . . .
3. Steam pressure. . . . . .
4. Factor of safety. . . . . .
5. Number of fire tubes. . . . . .
6. Number of water tubes. . . . . .
7. Heating surface. . . . . .
8. Grate area. . . . . .
9. Number of safety valves. . . . . .Size. . . . . .
   Type. . . . . .
10. Size and type of injectors. . . . . .
    . . . . . .
11. Size and type of pumps. . . . . .

The steam pressure and factor of safety was calculated on report dated. . . . . 19. . . ., made by. . . . . .is correct to the best of my knowledge and belief.

. . . . . .*Inspector.*

Province of. . . . . .

County of. . . . . .

I HEREBY CERTIFY that to the best of my knowledge and belief the above report is correct.

. . . . . .*Master Mechanic.* . . . . . .*Officer in Charge.*

BOARD OF RAILWAY COMMISSIONERS FOR CANADA

Form 2

STATIONARY BOILER REPORT

(Insert name of Railway)

Semi-annual inspection of boiler No. . . . . .

I have this. . . . . .day of. . . . . .19. . . . inspected, under steam, the boiler and appurtenances of boiler No. . . . . located at. . . . . and used as. . . . . .
All defects disclosed by said inspection have been repaired, except as noted on the back of this report.

1. Was steam gauge tested. . . . . .
2. Safety valves set at. . . . . .lbs. . . . . .lbs. . . . . .lbs. . . . . .
3. Condition of boiler. . . . . .
4. Condition of gauge cocks. . . . . .
5. Condition of waterglass. . . . . .
6. Condition of water column. . . . . .
7. Condition of blowoff cock. . . . . .
8. Condition of pump or injectors. . . . . .
9. Condition of steam valves. . . . . .
10. Condition of steam pipes. . . . . .
11. Condition of brick setting. . . . . .
12. Condition of boiler room. . . . . .

. . . . . .*Inspector.*

Province of. . . . . .

County of. . . . . .

I HEREBY CERTIFY that to the best of my knowledge and belief the above report is correct.

. . . . . .*Master Mechanic.* . . . . . .*Officer in Charge.*

BOARD OF RAILWAY COMMISSIONERS FOR CANADA

Form 3

STATIONARY BOILER REPORT

(Insert name of Railway)

Annual inspection of boiler No. . . . . .

Under the rules and instructions issued governing the inspection and testing of stationary boilers, I have this. . . . . .day of. . . . . .192. . . ., inspected the boiler and appurtenances of boiler No. . . . . located at . . . . . .and used as. . . . . .all defects disclosed by said inspection have been repaired, except as noted on the back of this report.

1. Hydrostatic pressure of. . . . . .lbs. applied.
2. Was furnace cleaned. . . . . .
3. Was boiler washed. . . . . .
4. Condition of braces. . . . . .No. renewed. . . . . .
5. Condition of staybolts. . . . . .No. renewed. . . . . .
6. Condition of fire tubes. . . . . .No. renewed. . . . . .
7. Condition of water tubes. . . . . .No. renewed. . . . . .
8. Condition of barrel. . . . . .
9. Condition of firebox. . . . . .
10. Condition of dome. . . . . .
11. Condition of steam header. . . . . .
12. Condition of steam valves. . . . . .
13. Condition of steam pipes. . . . . .
14. Condition of blowoff cock. . . . . .
15. Condition of gauge cocks. . . . . .
16. Condition of waterglass. . . . . .
17. Condition of grates. . . . . .
18. Condition of brick setting. . . . . .
19. Was steam gauge tested. . . . . .
20. Allowed working pressure. . . . . .
21. Safety valves set at. . . . . .lbs. . . . . .lbs. . . . . .lbs.
22. Were injectors or pumps tested. . . . . .
23. Was boiler examined under steam. . . . . .
24. Were appurtenances examined under steam. . . . . .
25. Condition of boiler room. . . . . .

. . . . . .*Inspector.*

Province of. . . . . .

County of. . . . . .

I HEREBY CERTIFY that to the best of my knowledge and belief the above report is correct.

. . . . . .*Master Mechanic.* . . . . . .*Officer in Charge.*

GENERAL ORDER No. 331

In the matter of exchange on passenger charges payable in respect of international traffic between Canada and the United States, and the application of the Railway Association of Canada, hereinafter called the "applicants", for the granting of surcharges on international passenger traffic.

File No. 29890.5

Upon hearing the application at the sittings of the Board held in Ottawa, March 2, 1921, in the presence of counsel for the applicants, the Toronto, Hamilton, and

Buffalo Railway Company, and the Montreal and Toronto Boards of Trade, the arguments addressed to the Board, the data furnished, and what was alleged, and after conferences with representatives of the applicants and reading the memoranda filed on behalf of the applicants, setting out in detail the surcharges it is proposed to apply at different points and the principles upon which such surcharges were based,—

The Board Orders as follows:—

1. A surcharge based on the full rate of exchange arrived at in accordance with the provisions of this Order may be added to the total through fares and charges as set out in section 6 hereof, and collected in Canada on all passenger and baggage car traffic to United States destinations from the following points in Canada via the routes set out in this section (subject to exemptions provided for in section 5 hereof):—

From	Via
Rock Island, Que.	Newport, Vt.
Stanstead, Que.	
Beebe Jct., Que.	
St. Armand, Que.	Highgate Springs, Vt.
Lacolle Que.	Rouses Point, N.Y.
Lacolle Jct., Que.	
St. Agnes, Que.	Fort Covington, N.Y.
Athelstan, Que.	Constable, N.Y.
Cornwall, Ont.	Nyando, N.Y.
Prescott, Ont.	Ogdensburg, N.Y.
Niagara Falls, Ont.	Suspension Bridge, N.Y., Buffalo, N.Y.
Niagara-on-the-Lake, Ont.	
Victoria Park, Ont.	
Falls View, Ont.	
Bridgeburg, Ont.	Buffalo, N.Y.
Windsor, Ont.	Detroit, Mich.
Walkerville, Ont.	
Sarnia, Ont.	Port Huron, Mich.
Sault Ste. Marie, Ont.	Sault Ste. Marie, Mich.
Fort Frances, Ont.	Ranier, Minn.
Rainy River, Ont.	
Emerson, Man.	Pembina, N.D.
	St. Vincent, Minn.
	Noyes, Minn.
Gretna, Man.	Neche, N.D.
West Gretna, Man.	
North Portal, Sask.	Portal, N.D.
Coutts, Alta.	Sweet Grass, Mon.
Kingsgate, B.C.	Eastport, Idaho.
White Rock, B.C.	Blaine, Wash.

2. A surcharge based on 75 per cent of the rate of exchange so arrived at may be applied in the case of all such traffic to United States destinations from the following points in Canada via the routes set out in this section (subject to the exemptions provided for in section 5 hereof):—

	From		Via
(a)	Montreal, Que. St. Hyacinthe, Que.	and intermediate points	Rouses Point, N.Y. Fort Covington, N.Y. Malone, N.Y. Highgate Springs, Vt. Newport, Vt. Island Pond, Vt.
(b)	Sherbrooke, Que. Lennoxville, Que.	and intermediate points	Newport, Vt.
(c)	Valleyfield, Que. Huntingdon, Que.	and intermediate points	Fort Covington, N.Y. Highgate Springs, Vt. Rouses Point, N.Y.
(d)	Russell, Ont.	and intermediate points	Nyando, N.Y.
(e)	Kemptville, Ont. Morrisburg, Ont.	and intermediate points	Ogdensburg, N.Y.
(f)	Hamilton, Ont. Caledonia, Ont. Hagersville, Ont. Jarvis, Ont.	and intermediate points	Suspension Bridge, N.Y. Buffalo, N.Y.
(g)	Smiths Falls, Ont. Perth, Ont. Westport, Ont.	and intermediate points	Morristown, N.Y.
(h)	Chatham, Ont. Fargo, Ont. Blenheim, Ont. Amherstburg, Ont. Leamington, Ont.	and intermediate points	Detroit, Mich.
(i)	Petrolia, Ont. Strathroy, Ont. Forest, Ont. Ailsa Craig, Ont.	and intermediate points	Port Huron, Mich.
(j)	Morris, Man.	and intermediate points	Pembina, N.D. St. Vincent, N.D.
(k)	Estevan, Sask.	and intermediate points	Portal, N.D.
(l)	Vancouver, B.C. New Westminster, B.C. Victoria, B.C.	and intermediate points	Everett, Wash., or Seattle, Wash., to points west of the direct line of M. St. P. and S.S.M., via Miner, N.D., also to points west of Minneapolis, Minn., St. Paul, Minn., Sioux City, Iowa, Omaha, Neb., Atchison, Kan., Kansas City, Mo., St. Louis, Mo., Cairo, Ill., Memphis, Tenn., Vicksburg, Miss., New Orleans, La., and via California to all points.

3. A surcharge based on 50 per cent of the rate of exchange so arrived at may be applied in the case of all such traffic to United States destinations from the following points in Canada via the routes set out in this section (subject to the exemptions provided for in section 5 hereof):—

From		Via
St. John, N.B. Fredericton, N.B. Woodstock, N.B.	and intermediate points	Vanceboro, Me.
Thetford Mines, Que. St. Ephrem, Que.	and intermediate stations to but not including Sherbrooke and Megantic	Newport, Vt. Beecher Falls, Vt. Island Pond, Vt., or Lowelltown, Me.
Victoriaville, Que.	and stations to Danville, Que., inclusive	Island Pond, Vt., or Newport, Vt.
Ottawa, Ont.	and intermediate stations to but not including Russell, Ont., Kemptville, Ont., Smiths Falls, Ont., Valleyfield, Que., and Montreal, Que.	Nyando, N.Y. Ogdensburg, N.Y. Morristown, N.Y. Rouses Point, N.Y. Highgate Springs, Vt., Newport, Vt., and Island Pond, Vt.
Toronto, Ont. Georgetown, Ont. Guelph, Ont. Galt, Ont. Paris, Ont. Tillsonburg, Ont.	and intermediate stations to but not including Hamilton, Ont., Caledonia, Ont., Hagersville, Ont., and Jarvis, Ont	Suspension Bridge, N.Y. Buffalo, N.Y.
London, Ont. St. Thomas, Ont. Stratford, Ont. Courtwright, Ont.	and intermediate stations to but not including Strathroy, Ont., Ailsa Craig, Ont., Fargo, Ont., or Blenheim, Ont.	Detroit, Mich. Port Huron, Mich.
Winnipeg, Man.	and intermediate stations	Neche, N.D. Pembina, N.D. St. Vincent, Minn. Noyes, Minn. to points west of Sault Ste. Marie, Mich., Port Huron, Mich., Detroit, Mich., Toledo, Ohio, and points south thereof also to points east of States of Idaho and California.
Weyburn, Sask.	and intermediate stations to but not including Estevan, Sask.	Portal, N.D.

4. A surcharge based on 25 per cent of the rate of exchange so arrived at may be applied in the case of all such traffic to United States destinations from all other points in Canada (subject to the exemptions provided for in section 5 hereof):—

5. No exchange surcharge will be collected on such traffic from points in Canada to the following United States destinations via the routes set out in this section:—

To	Via	From
Vanceboro, Me. and intermediate stations in Maine Houlton, Me. Presque Isle, Me. Fort Fairfield, Me. Caribou, Me.	C. P. Rly.	New Brunswick. Nova Scotia. Prince Edward Island.
Lowelltown, Me.	C. P. Rly.	From and through Megantic, Que.
Norton Mills, Vt. Lake, Vt. Summit, Vt. Island Pond, Vt.	G. T. Rly.	All points.
Beecher Falls, Vt.	Me. Cent. R.R.	All points.
North Troy, Vt. Centre, Vt. Newport, Vt.	C. P. Rly.	All points.
Derby Line, Vt. Newport, Vt.	B. & M.R.R.	All points.
Highgate Springs, Vt.	C. V. Rly.	All points.
Rouses Point, N.Y.	All Routes	All points.
Constable, N.Y.	N. Y. C. R.R.	All points.
Fort Covington, N.Y.	G. T. Rly.	All points.
Nyando, N.Y.	N. Y. C. R.R.	All points.
Ogdensburg, N.Y.	All Routes via Prescott, Ont.	All points.
Niagara Falls, N.Y. Suspension Bridge, N.Y. Tonawanda, N.Y.	All Routes	All points.
Buffalo, N.Y. Black Rock, N.Y.	All Routes	All points.
Detroit, Mich.	All Routes via Windsor, Ont., or Sarnia, Ont.	All points.
Port Huron, Mich.	G.T.R. via Sarnia, Ont.	All points.
Sault Ste. Marie, Mich.	All Routes via Sault Ste. Marie, Ont.	All points.
Stations on C. N. Rlys. in Minnesota	C.N.R., via Rainy River, Ont., or Middlebro, Man.	All points.
Ranier, Minn.	C. N. Rlys, via Fort Frances, Ont.	All points.
Noyes, Minn. St. Vincent, Minn. Pembina, N.D.	All Routes via Emerson, Man.	All points.
Neche, N.D.	C. P. Rly., via Gretna Man., and G. N. Rly., via West Gretna, Man.	All points.
Walhalla, N.D. St. John's, N.D.	G. N. Rly.	Manitoba points.

To	Via	From
Portal, N.D.	C. P. Rly., via North Portal, Sask.	All points.
Sweet Grass, Mon.	C. P. Rly., via Coutts, Alta.	Alberta points.
Gateway, Mon.	G. N. Rly., via Baynes, B.C.	British Columbia points.
Eastport, Idaho	C. P. Rly., via Kingsgate, B.C.	All points.
Northport, Wash. Laurier, Wash. Danville, Wash. Ferry, Wash. Molson, Wash. Croville, Wash.	G. N. Rly.	British Columbia points north of stations named.
Blaine, Wash., to Seattle, Wash., included	G. N. Rly., via White Rock, B.C.	Vancouver, B.C. and Canadian stations intermediate between Vancouver, B.C., and Seattle Wash.
Seattle, Wash.	C.P., B. C. Coast Steamships and G. T. P. Coast Steamships	Vancouver, B.C. Victoria, B.C.
Alaska Points	C.P., B.C. Coast Steamships	All points.

6. The surcharge herein provided for will be calculated at the rate governing at the date of issue of ticket, check, or receipt upon the amount of the through fare or charge from starting point to destination, for:—

(*a*) Passage tickets,
(*b*) Sleeping car tickets,
(*c*) Parlor car tickets,
(*d*) Excess or other revenue baggage car traffic and special baggage cars.
(*e*) Collections for transfer or special delivery of baggage in United States cities.

7. In arriving at the surcharge, the rate of exchange quoted for New York funds by the Bank of Montreal in Montreal at noon on the last day of each month will govern from the first to the fourteenth inclusive of the following month: similarly such quotation at noon on the fourteenth will govern from the fifteenth to the last day inclusive of such month; should the governing date fall on a Sunday or Canadian or United States legal holiday the noon quotation of the preceding day will govern. In determining the rate of exchange and surcharge to be applied, fractions less than one-half will be disregarded, and fractions of one-half or over will be counted as one per cent.

8. Telegraphic advice will be sent to railway agents in Canada on the last day of each month specifying the rate of exchange on which surcharge will be based from the 1st to the 14th inclusive of the following month; and on the 14th day of each month specifying the rate effective from the 15th to the last day, inclusive, of such month. Agents must file such telegraphic advice with the tariff governing such surcharge.

9. Each railway company shall file with the Board effective March 15th instant, a special tariff setting forth the charges to be made in accordance with the provisions of this order and corresponding to the varying rates of exchange, and in such tariffs

they will be permitted to arrange the amounts on which the surcharges are to be assessed in groups of not exceeding fifty cents, provided that the amount to be collected on account of exchange does not exceed the authorized rate on the average of each group.

And the Board further Orders: That the telegraphic advice as provided in section 8 of this order be posted in a conspicuous place in each passenger station in Canada of the railway companies over which the Board has jurisdiction; that the companies instruct their agents to inform the public when purchasing tickets to the United States that they have the right to purchase a ticket to the border in Canadian funds, if they so desire; and that a poster to this effect in large letters be posted in a conspicuous place in each passenger station as aforesaid.

And the Board further Orders: That the said railway companies furnish the Board with monthly statements showing the total receipts for international passenger traffic from each zone, with the surcharge received thereon, the portion accruing to the Canadian lines, and that accruing to the American lines, as well as the receipts from American roads, for traffic from the United States to Canada, divided in the same manner.

F. B. CARVELL,
Chief Commissioner.

OTTAWA, March 5, 1921.

GENERAL ORDER No. 332

In the matter of the complaint of the Calgary Live Stock Exchange as to the restricted valuations on live stock shipped as part of settlers' effects, and claim that such valuations should equal those scheduled in the New Live Stock Contract, made effective by the Order of the Board No. 298, dated June 2, 1920.

File No. 28233.8

Upon hearing the complaint at the sittings of the Board held in Calgary, October 20, 1920, the complainant, the Canadian Pacific Railway Company, and the Canadian National Railways being represented at the hearing, and what was alleged; and upon the report and recommendation of the Chief Traffic Officer of the Board,—

The Board Orders: That the live stock valuations in the classification of household goods and settlers' effects, as set out on page 100 of the Canadian Freight Classification No. 16, be amended so as to agree with the provisions of section 1 of the Live Stock Bill of Lading, Schedule "A", approved by the general order of the Board No. 298, dated June 2, 1920.

F. B. CARVELL,
Chief Commissioner.

OTTAWA, March 14, 1921.

GENERAL ORDER No. 333

In the matter of the Order of the Board No. 2139, dated December 6, 1906, as amended by Order No. 28742, dated August 29, 1919, prescribing the form, size, and style of the tariffs of telephone tolls to be charged by telephone companies; and the application of the Bell Telephone Company of Canada for an Order amending the said Orders to provide for the approval of the system of publication of long distance tolls, known as the "Standard Toll Rate Quoting System."

File No. 3926.1

Upon reading the application and what is filed in support thereof, and the report and recommendation of the Traffic Officer of the Board,—

The Board Orders as follows:—

(*a*) That tariffs of telephone tolls hereafter filed with the Board be printed on sheets or in books of a size not to exceed eighteen inches in length and eighteen inches in width.

(*b*) That the said tariffs be specifically numbered in the upper right-hand corner by each telephone company, with the prefix "C.R.C.", beginning with C.R.C. No. 1, and that subsequent tariffs be numbered consecutively.

(*c*) That contracts, agreements, arrangements, or other forms which affect tolls shall conform in numbering with tariffs of tolls, and so far as may be convenient in dimensions also.

(*d*) That the said tariffs, contracts, agreements, arrangements, and other forms be accompanied by a filing advice in duplicate, which shall give the C.R.C. numbers of the enclosures, with the effective dates and descriptions thereof, in accordance with the accompanying form "A" the duplicate of which will be stamped and returned to the sender as the Board's acknowledgment of the receipt of the enclosures. That filing advices be uniform in size, eleven inches in length and eight and one-half inches in width, and be numbered consecutively, without the C.R.C. prefix, and without regard to the C.R.C. numbers of the enclosures.

(*e*) That the occasion for the issue be shown at the top of the front page of all tariffs, contracts, agreements, arrangements, and other forms following those first filed with the Board, thus: "Advance." "Reduction," "Reissue." or "New Rates." as the case may be.

(*f*) That the act of mailing by the company shall not constitute filing within the meaning of the Act, and that new tariffs, contracts, agreements, arrangements, or other forms shall actually have reached Ottawa three days in the case of a reduction or thirty days in the case of an advance, before they shall have become effective.

(*g*) That the accompanying form "B" of Certificate of Concurrence in Joint Tariffs be, and the same is hereby, prescribed under the powers conferred by the Railway Act, 1919; the said certificates to be uniform in size, eleven inches in length and eight and one-half inches in width, to be consecutively numbered, and to contain a full and exact description of the tariff concurred in, and to be signed in person by the official filing the same under the said provisions of the Railway Act, 1919, or by some person duly authorized to sign for him; such person to affix his signature in full to the name of the official for whom he signs; the Board to be kept advised of the persons to whom such authority is delegated; and that two copies of each certificate be sent to the Board, one of which will be stamped and returned to the sender as the Board's acknowledgment of receipt.

And whereas, by subsection 6 of section 375 of the Railway Act, 1919, the Board is authorized to make regulations determining and prescribing the manner in which tariffs of telephone tolls shall be published or kept open for public inspection,—

The Board therefore further Orders:

(1) That the company deposit and keep on file in each city, town, and village, in a convenient place, open for the inspection of the public, during business hours, a copy of its Exchange Tariff in use thereat, and print a notice prominently and in bold type in each of its Official Telephone Directories directing the public attention to the place in its office or offices in each city, town, and village where such tariffs are on file.

(2) That the company deposit and keep on file at each of its toll centres a complete set of its toll tariffs, including First Reference Lists and Rate Charts for each office, tributary to it, and also for the toll centre itself, and at tributary offices from which toll rates are quoted, a First Reference List shall be deposited and kept on file.

(3) That at each office where exchange and toll tariffs of telephone tolls are kept on file, the person in charge at such office shall, upon application, produce any particular tariffs on file thereat, for inspection.

(4) The form of public notice aforesaid is hereby prescribed as follows:—

TELEPHONE COMPANY

PUBLIC NOTICE

The company's tariffs are open to public inspection.

The Exchange Tariff may be seen on application to the manager at the company's central office.

Long Distance Toll Tariffs may be seen on application at the head office of the company, in the city of.. .. ..or to the company's manager at the toll centre of any locality, the name of which toll centre will be furnished by the manager of the local exchange.

The following are the toll centres in the district covered by this directory (to be followed by an alphabetical list of such toll centres).

And the Board further Orders: That the said Orders Nos. 2139 and 28742, dated respectively December 6, 1906, and August 29, 1919, be rescinded.

S. J. McLEAN,
Assistant Chief Commissioner.

OTTAWA, March 26, 1921.

A

. . . .
(Insert name of telephone company here.)
. . . . .19. . .

FILING ADVICE NO. . . . .
The Chief Traffic Officer,
Railway Commission for Canada,
Ottawa, Ont.

SIR,—In compliance with the requirements of the Railway Act, 1919, I transmit herewith, for approval and filing with the Commission, copies of Tariffs, et cetera, as follows:—

C.R.C. Number	Date Taking Effect	Description

(Signature). . . . .

. . . .

B

. . . . . .
(Insert name of concurring telephone company here.)
. . . . . .19. . . .

CONCURRENCE CERTIFICATE No. . . . . .

The Chief Traffic Officer,
Railway Commission for Canada,
Ottawa, Ont.

This is to certify that the. . . . . .Telephone company assents to and concurs in the publication and filing of the schedule described below, and hereby makes itself a party thereto:—

. . . . . .

C.R.C. Number
and Title

. . . . . .
. . . . . .
. . . . . .
(Here give exact description of title of schedule.)

Date of issue. . . . . .
Date effective. . . . . .
Issued by:
(Official). . . . . .
(Telephone Company). . . . . .
(Signature). . . . . .

GENERAL ORDER No. 334

In the matter of the General Order of the Board No. 188, dated April 23, 1917, prescribing Regulations for the Uniform Maintenance of Way Flagging Rules for Impassable Track, for the observance of every railway company within the legislative authority of the Parliament of Canada, and requiring that the said Rules be printed in the working time-tables of the railway companies.

File No. 4135.25

Upon the report and recommendation of the Chief Operating Officer of the Board,—

The Board Orders: That the said General Order No. 188, dated April 23, 1917, be, and it is hereby, amended to provide that the Regulations for the Uniform Maintenance of Way Flagging Rules for Impassable Track may, at the option of the railway companies, be printed in the Rule Books of such companies, in lieu of the working time-tables, as provided in the said General Order No. 188.

F. B. CARVELL,
Chief Commissioner.

OTTAWA, April 1, 1921.

GENERAL ORDER No. 335

In the matter of the General Order of the Board No. 236, dated May 20, 1918, prescribing certain regulations for the protection of railway employees, paragraph 2 of which reads as follows:—

"2. When more than one engine is attached to a train, the engineer of the leading engine shall operate the brakes: (File No. 1750.)

File No. 4135.63

Upon reading the submissions filed on behalf of the railway companies and representatives of railway employees; and upon the report and recommendation of the Chief Operating Officer of the Board,—

The Board Orders: That the said General Order No. 236, dated May 20, 1918, be, and it is hereby, amended by adding to the said paragraph 2 the following, namely:—

"In case of the leading engine giving up the train short of the destination of the train, a test of the brakes must be made to see that the same are operative from the engineer's valve of the engine remaining with the train."

S. J. McLEAN,
Assistant Chief Commissioner.

OTTAWA, April 1, 1921.

GENERAL ORDER No. 336

In the Matter of the General Order of the Board No. 42, dated July 12, 1909, approving a Uniform Code for Canadian Railways; and in the matter of Rule 99, paragraphs 6 and 9 thereof, which read as follows:—

"If recalled before another train arrives he must at night or when weather conditions obscure day signals, or when snow ploughs or flangers may be running in addition to the two torpedoes, leave a fusee burning red at the point he returns from and at such other points on his return as may be necessary to insure full protection;

"Flagmen must each be equipped for day time with a red flag and four torpedoes, and for night time and when weather or other conditions obscure day signals, with a red light, a white light, and four torpedoes, three red fusees, and a supply of matches."

File No. 4135.77

Upon hearing the matter at the sittings of the Board held in Ottawa, September 27, 1920, the Canadian Pacific and Grand Trunk Railway Companies, the Canadian National Railways, the Michigan Central Railroad Company, the Brotherhood of Locomotive Firemen and Enginemen, the Brotherhood of Locomotive Engineers, and the Brotherhood of Railroad Trainmen being represented at the hearing, and what was alleged; and upon the report and recommendation of the Chief Operating Officer,—

The Board Orders: That the said paragraphs 6 and 9 of rule 99 be struck out and the following substituted therefor, namely:—

"If recalled before another train arrives, he must in addition to the two torpedoes, leave a fusee burning red at the point he returns from, and while returning to his train—when snow ploughs or flangers may be running, curvature, weather, or other conditions governing—a fusee burning red must be placed at such points or times as the flagman may find necessary to insure full protection.

"To maintain the proper interval between trains, a fusee burning red must be left by the protected train, at the point from which it moves.

"Flagmen must each be equipped for day time with a red flag, 22 inches by 28 inches, on a staff, at least six torpedoes and five red fusees; and for night time, and when weather or other conditions obscure day signals, a red light, a white light, with a supply of matches, at least six torpedoes, and five red fusees".

S. J. McLEAN,
Assistant Chief Commissioner.

OTTAWA, April 2, 1921.

GENERAL ORDER No. 337

In the matter of the consideration of the question of charges for fixing car doors and loading charges in cases where box cars are supplied by a railway company in lieu of stock cars ordered by the shipper.

File No. 27700.2

Upon reading the submissions filed on behalf of The United Grain Growers, Limited, and the Canadian Pacific Railway Company,—

The Board Orders as follows:—

1. That when, at any public stockyards where loading is not done by the shipper and a charge for loading is made, box-cars are supplied to live stock shippers in lieu of stock cars, the doors of such cars shall be fixed to the satisfaction of the shipper, at the expense of the railway company having the line haul, such company being responsible for the supplying of a suitable vehicle.

2. That, where box-cars are supplied by a railway company to live stock shippers in lieu of stock cars, at any public stockyards where loading charges are in effect, the loading charge shall not be based on the number of box-cars actually furnished or loaded, but on the number of cars which would have been loaded had stock cars been supplied by the railway company.

S. J. McLEAN,
Assistant Chief Commissioner.

OTTAWA, April 8, 1921.

GENERAL ORDER No. 338

In the matter of the application of the Bell Telephone Company of Canada, hereinafter called the "applicant company", for an Order authorizing a general increase in its telephone tolls.

Case No. 955

The application was heard at the sitting of the Board held in Ottawa, September 21, 1920, and January 5 to January 24, 1921; Hamilton, November 4, 1920; Toronto, November 5, 1920; and Montreal, November 10, 1920. Counsel for and representatives of the Applicant Company, Boards of Trade of Quebec, Montreal, Ottawa, and Toronto, the Chamber of Commerce of Hamilton, La Chambre du District de Montréal, the Cities of Ottawa, Montreal, Sherbrooke, Quebec, Toronto, Hamilton, and London, the Union of Canadian Municipalities, Union of Municipalities of the Province of Quebec, the King Street Improvement Association of Toronto, the County of York,

the Canadian Manufacturers' Association, Tenants League of Montreal, Montreal Publicity Association, Butchers' Association of Montreal, Ontario Medical Association, Central Ratepayers' Association, Caledonia District Ratepayers' Association, the Academy of Medicine, Insurance Companies, Canadian Bankers' Association, Toronto Harbour Commissioners, the Government and Attorney General of Ontario, the Board of Education of Toronto, the Retail Merchants' Association of Canada, the Canadian Lumbermen's Association, and the Ontario Municipal Association were represented at the hearing, evidence was offered, and argument submitted; and the Board, by its judgment dated April 1, 1921, found that there was a deficit in the applicant company's necessary revenue of some two million one hundred thousand dollars; that, as against this, the increased long distance charges and the service connection charges would produce approximately one million one hundred and fifty thousand dollars, leaving the sum of approximately one million dollars to be obtained from the rates and charges for exchange service, to provide which the Board directed that an increase of ten per cent in the rates and charges for such exchange service be allowed.

Whereas, after the judgment was delivered and before the order issued, it was made clear to the Board that an error in computation as to the earnings of the company had been made, and that an increase of twelve per cent in the rates and charges for exchange service was necessary to provide the required revenue,—

And whereas the substantive judgment of the Board, dated April 12, 1921, reciting the fact of the said error in computation and setting forth how the mistake occurred, authorizes and allows an increase of twelve per cent in the said rates and charges for exchange service,—

The Board accordingly therefore Orders as follows:—

1. That the applicant company's tariff of tolls for long distance service, to replace all existing tariffs of tolls for such service, as set out in schedule 2 of the application filed with the Board under Case No. 955, be, and it is hereby, approved.

2. That an increase of twelve per cent in the applicant company's tariff of rates and charges for exchange service be, and it is hereby, authorized and allowed.

3. That an increase of twelve per cent in the applicant company's tariff of rates and charges for miscellaneous equipment and service be, and it is hereby, authorized and allowed.

4. That the rates and charges for exchange service at present applicable in the city of Montreal be reduced to those at present applicable in the city of Toronto; such rates and charges thereafter to be increased as provided for in paragraph 2 hereof.

5. That the applicant company's "Service connection charge", as shown in schedule 5 of the application, be, and it is hereby, authorized and allowed.

6. That the application for the change in rates as shown in schedules 1, 3 and 4 of the applicant company's application be, and it is hereby, refused.

7. That as an emergency provision, the applicant company's allowance for depreciation be computed on the basis of four per cent of the average depreciable plant.

8. That the increases herein allowed may become effective in not less than seven days after the filing of schedules with the Board.

9. That the increases hereby allowed be regarded as a temporary measure, to meet an existing emergency situation; the applicant company to continue to file the same monthly reports as at present, with such further special reports, if any, as may from time to time be called for by the Board.

S. J. McLEAN,
Assistant Chief Commissioner

OTTAWA, April 13, 1921.

GENERAL ORDER No. 339

In the matter of the Regulations for the Transportation of Explosives and Other Dangerous Articles by Freight, approved by the General Order of the Board No. 204, dated August 11, 1917; and the matter of reporting accidents and explosions to the Board.

File No. 1717

Upon reading what is filed on behalf of the Bureau of Explosives, and the report and recommendation of the Traffic Officer of the Board,—

The Board Orders: That section 1534 of the said Regulations for the Transportation of Explosives and Other Dangerous Articles by Freight be, and it is hereby, amended by striking out the words after the words "Union Station, Toronto", in subsection (*a*) thereof, and substituting therefor the words, "Accidents and explosions must also be reported to the secretary of the Board of Railway Commissioners, Ottawa, Ont."; and that section 1715 of the said regulations be amended by striking out the words after the words "Union Station, Toronto, Ont.", in subsection (*a*) thereof, and substituting therefor the words, "Accidents or fires must also be reported to the secretary of the Board of Railway Commissioners, Ottawa, Ont."

S. J. McLEAN,
Assistant Chief Commissioner.

OTTAWA, May 7, 1921.

GENERAL ORDER No. 340

In the matter of the General Order of the Board No. 322, dated December 10, 1920, requiring all railway companies subject to the jurisdiction of the Board to withdraw Special Instruction "E" from their respective working time-tables, and hereafter observe the Uniform Code of Rules for Canadian Railways approved by General Order No. 42, dated July 12, 1909; the necessary changes and instructions to employees to become effective June 1, 1921;

And in the matter of the application of the Canadian Pacific Railway Company and the Canadian National Railways for an extension of time beyond the said 1st day of June, 1921.

File No. 4135.26

Upon hearing the matter at the sittings of the Board held in Ottawa, May 17, 1921, the Canadian Pacific Railway Company, Canadian National Railways, Michigan Central Railroad Company, Railway Association of Canada, Brotherhod of Locomotive Firemen and Enginemen, Brotherhood of Locomotive Engineers, Brotherhood of Railroad Trainmen, and Brotherhood of Railway Conductors being represented at the hearing, and what was alleged,—

The Board Orders: That, pending further hearing, the time within which the changes and instructions, required under the said General Order No. 322 to become effective on June 1, 1921, be, and it is hereby, extended until the 15th day of June, 1921.

F. B. CARVELL,
Chief Commissioner.

OTTAWA, May 19, 1921.

GENERAL ORDER No. 341

In the matter of the application of the Fuel Dealers' Association of Greater Winnipeg, the Winnipeg Board of Trade, and others for a reduction in the freight rates on coal in Western Canada, between the dates of April 1 and October 1 of each year.

File No. 27425.53

Upon hearing the application at the sittings of the Board held in Winnipeg, April 27, 1921, the Fuel Dealers' Association of Greater Winnipeg, the Dominion Collieries of Saskatchewan, the provinces of Manitoba, Saskatchewan, and Alberta, coal operators and coal dealers of the Edmonton District, Drumheller, and Calgary, the Calgary Retail Dealers' Association, the Trades Commission of Alberta, the Boards of Trade of Montreal and Toronto, the Canadian Pacific Railway Company, and the Canadian National Railways being represented at the hearing, and what was alleged,—

The Board Orders: That all railway companies subject to the jurisdiction of the Board interested in the coal movement in the three Prairie Provinces, be, and they are hereby, required to reduce the rates on coal from mines in the provinces of Alberta and Saskatchewan to points in the provinces of Alberta, Saskatchewan, and Manitoba, by ten per cent, including coal actually billed out up to and including the 31st day of August next; such companies to file tariffs to this effect, effective on the 1st day of June next.

F. B. CARVELL,
Chief Commissioner.

OTTAWA, May 21, 1921.

GENERAL ORDER No. 342

In the matter of the application of the railway companies subject to the jurisdiction of the Board for approval of reduced standard passenger fares, to become effective July 1, 1921.

File No. 29996.25

Whereas supplements to standard passenger tariffs have been filed by the undermentioned railway companies, to become effective July 1, 1921, on the reduced basis prescribed by the Judgment of the Board, dated September 6, 1920, and General Order No. 308, dated September 9, 1920,—

The Board Orders: That the following supplements to standard passenger tariffs be, and they are hereby, approved, the said supplements to be published in at least two consecutive weekly issues of the *Canada Gazette*, preceded by the following notice:—

> "The undermentioned supplements to standard passenger tariffs, effective July 1, 1921, having been filed for the approval of the Board of Railway Commissioners for Canada, and having been found by the Board to be in accordance with its Judgment, dated September 6, 1920, and its General Order No. 308, dated September 9, 1920, and having been approved by its General Order No. 342, dated June 9, 1921, the same are hereby published."

		C.R.C. No
Boston and Maine Railroad	Supplement No. 3 to	305
Canadian National Railways	Supplement No. 4 to Canadian Northern	W-1492
Canadian National Railways	Supplement No. 3 to Canadian Northern	E-1064

		C.R.C. No.
Canadian National Railways	Supplement No. 3 to Halifax and South Western	P-77
Canadian Pacific Railway	Supplement No. 3	E-3187
Central Vermont Railway	Supplement No. 4	502
Dominion Atlantic Railway	Supplement No. 3	404
Fredericton and Grand Lake Coal and Railway	Supplement No. 3	4
Glengarry and Stormont Railway	Supplement No. 4	2
Grand Trunk Pacific Railway	Supplement No. 4	660
Grand Trunk Railway	Supplement No. 4	E-2669
Great Northern Railway	Supplement No. 4	1161
Maine Central Railroad	Supplement No. 4	214
Michigan Central Railroad	Supplement No. 4	2441
Napierville Junction Railway	Supplement No. 4	92
New Brunswick Coal and Railway	Supplement No. 3	4
New York Central Railroad	Supplement No. 5	191
Northern Pacific Railway (The Midland Railway Company of Manitoba)	Supplement No. 3	317
Pere Marquette Railway	Standard Passenger Tariff No. 6	609
Quebec Central Railway	Supplement No. 3	174
Toronto, Hamilton and Buffalo Railway	Supplement No. 3	1209
Wabash Railway	Supplement No. 3	996

S. J. McLEAN,
Assistant Chief Commissioner.

OTTAWA, June 9, 1921.

GENERAL ORDER No. 343

In the matter of the General Order of the Board No. 322, dated December 10, 1920, requiring all railway companies subject to the jurisdiction of the Board to withdraw Special Instruction "E" from their respective working time-tables and hereafter observe the Uniform Code of Rules for Canadian Railways approved by General Order No. 42, dated July 12, 1909; the necessary changes and instructions to employees to become effective June 1, 1921; and the Order of the Board No. 340, dated May 19, 1921; extending such effective date until the 15th day of June, 1921;

And in the matter of the application of the Railway Association of Canada for certain amendments to Rules 93 and 99 of the General Train and Interlocking Rules, so as to provide for the method of operation now employed by certain of its member railways under so-called Special Instruction "E."

File No. 4135.26

Upon hearing the matter at the sittings of the Board held in Ottawa, June 15, and 16, 1921, the Railway Association of Canada, the Canadian Pacific, Grand Trunk, and Toronto, Hamilton and Buffalo Railway Companies, the Canadian National Railways, the Michigan Central Railroad Company, the Brotherhood of Locomotive Engineers, the Brotherhood of Locomotive Firemen and Enginemen, the Brotherhood of Railway Trainmen, and the Brotherhood of Railway Conductors being represented at the hearing, and what was alleged,—

The Board Orders: That the time within which the said changes and instructions may become effective be, and it is hereby, extended until the 1st day of September, 1921, or until further order of the Board.

F. B. CARVELL,
Chief Commissioner.

OTTAWA, June 17, 1921.

GENERAL ORDER No. 344

In the matter of the consideration of the ruling of the Canadian Freight Association, as communicated to the Board by letter dated June 30, 1921, from W. C. Chisholm, K.C., that section 14 of the Board's General Inter-switching Order No. 252, dated October 26, 1918, is construed to authorize the local road haul scale of 24 cents first-class as the "ordinary published rate to the interchange."

File No. 6713.184

Upon hearing the matter at the sittings of the Board held in Ottawa December 21, 1920, the Canadian Freight Association, Canadian Pacific Railway Company, Canadian National Railways and the Boards of Trade of Toronto and Montreal being represented at the hearing, and what was alleged,—

The Board Orders: That the words "ordinary published rate", as contained in the said section 14 of General Order No. 252, dated October 26, 1918, be construed to mean the rate that would be charged for the same movement as a local switching and not an interswitching operation.

S. J. McLEAN,
Assistant Chief Commissioner.

OTTAWA, June 27, 1921.

GENERAL ORDER No. 345

In the matter of the consideration of the question of establishing a standard track centre for the construction of divisional points, terminal sorting yards, and sidings which will provide a safe clearance for the movement of trainmen and yardmen in the performance of their duties.

File No. 28290

Upon hearing the matter at the sittings of the Board held in Ottawa, January 7, 1919, the Canadian Pacific and Grand Trunk Railway Companies, the Canadian National Railways, the Michigan Central and the New York Central Railroad Companies, the Brotherhood of Locomotive Engineers, and the trainmen and yardmen being represented at the hearing, and what was alleged; and upon reading the written submissions filed,—

The Board Orders: That tracks of all railway companies subject to the jurisdiction of the Board laid after the 1st day of January, 1922, be placed at the following minimum distances, namely:—

1. Main tracks. . . . . 13 feet
2. Main and passing tracks. . . . . 14 feet
3. Main or running track and parallel yard tracks. . . . . 14 feet

4. Receiving, sorting, and classification yard tracks	13 feet 6 inches
5. Storage tracks	13 feet 6 inches
6. Parallel ladder tracks	18 feet
7. Ladder and other tracks	15 feet
8. Freight shed tracks	12 feet
9. Team tracks in pairs	12 feet
10. Passenger station tracks, without platform between	13 feet

And the Board further Orders: That any such tracks now laid which are rearranged after January 1, 1922, be placed in accordance with the minimum clearances herein provided.

F. B. CARVELL,
Chief Commissioner.

OTTAWA, June 23, 1921.

GENERAL ORDER No. 346

In the matter of the General Order of the Board No. 204, dated August 11, 1917, outhorizing, for the observance of the railway companies subject to the jurisdiction of the Board which accept explosives for carriage, the Regulations for the Transportation of Explosives and Other Dangerous Articles by Freight; and the application of the Electric Reduction Company, Limited, of Buckingham, Quebec, for a change in the said Regulations so as to permit of the shipment of phosphorus in metal containers.

File No. 1717.29

Upon reading what is filed in support of the application and on behalf of the Railway Association of Canada and the Bureau of Explosives, revised regulations in line with those approved by the Interstate Commerce Commission being recommended on behalf of the said Bureau of Explosives,—

The Board Orders: That section 1832 of the said Regulations for the Transportation of Explosives and Other Dangerous Articles by Freight, as authorized by the said General Order No. 204, dated August 11, 1917, be, and it is hereby, struck out and the following substituted therefor, namely:—

"1832 (*a*) White or yellow phosphorus must be placed in water, in sealed metal vessels enclosed in wooden boxes (see Specification No. 18) or in metal drums of not exceeding 25 Imperial gallons capacity, complying with Specification No. 5: Provided that drums of not exceeding 8 Imperial gallons capacity must be constructed of full 16 gauge and drums of not exceeding 24 Imperial gallons capacity of not less than full 14 gauge.

"(*b*) Amorphous (red) phosphorus must be packed in sealed metal containers enclosed in wooden boxes, complying with Specification No. 18."

F. B. CARVELL,
Chief Commissioner.

OTTAWA, September 23, 1921.

GENERAL ORDER No. 347

In the matter of the General Order of the Board No. 258, dated November 25, 1918; and Rule 26 of the "General Train and Interlocking Rules", approved by Order No. 7563, dated July 12, 1909, providing that a blue flag by day and a blue light at night be displayed at one or both ends of an engine, car, or train for the protection of workmen engaged in, under, or around cars on regular repair tracks.

File No. 20847

Upon the report and recommendation of the Chief Operating Officer of the Board, and reading the submissions filed by the Railway Association of Canada, on behalf of the railway companies,—

The Board Orders: That the said General Order No. 258, dated November 25, 1918, be, and it is hereby, amended by striking out the words, "the day signal (flag) to be 22 by 28 inches in size," in the sixth and seventh lines of paragraph 1 of the order, and substituting therefor the words, "the day signal may be of rigid material, 22 inches by 28 inches in size, with rounded corners, painted royal blue, with a border of white on both sides, 1½ inch in width."

F. B. CARVELL,
Chief Commissioner.

OTTAWA, November 2, 1921.

GENERAL ORDER No. 348

In the matter of the General Order of the Board No. 271, dated September 10, 1919, with respect to the Canadian Freight Classification and the Express Classification for Canada, and sections 322 and 360 of the Railway Act, 1919.

File No. 25639

Upon reading the submission filed,—

The Board Orders: That the said General Order No. 271, dated September 10, 1919, be, and it is hereby, amended by adding at the end of page 2 of the order the words, "The Canadian Traffic League."

F. B. CARVELL,
Chief Commissioner.

OTTAWA, November 10, 1921.

GENERAL ORDER No. 349

In the matter of the application of the Canadian Manufacturers' Association, Canadian Retail Coal Dealers' Association, Canadian Pulp and Paper Association, Dominion Millers' Association, Western Retail Lumbermen's Association, Canadian Lumbermen's Association, Retail Merchants' Association of Canada, Premier Potato Company, Limited, the A. B. Cushing Lumber Company, Limited, The Steel Company of Canada, Limited, The Canadian Traffic League, The Ontario Retail Lumber Dealers' Association, Boards of Trade of Toronto, Peterborough, Hamilton, Montreal, Halifax, and Vancouver requesting the

Board to call upon the railway companies and the Canadian Car Demurrage Bureau to show cause why the charges contained in Rule 9 of the Canadian Car Demurrage Rules should not now be reduced to the normal rate of $1 per car per day.

File No. 1700

Upon hearing the application at the sittings of the Board held in Ottawa, June 21, 1921, the applicants, the Railway Association of Canada, the Canadian Car Demurrage Bureau, and the Canadian Pacific and Grand Trunk Railway Companies being represented at the hearing, and what was alleged; and upon reading the written submissions filed,—

The Board Orders: That rule 9 of the Canadian Car Demurrage Rules, as prescribed by the general order of the Board No. 201, dated August 1, 1917, be, and it is hereby, amended by striking out all the words after the word "released", in the second line thereof, and substituting therefor the words:—

"For the first day, or fraction thereof, of delay.. .. ..One dollar.
"For the second day, or fraction thereof, of delay.. .. ..One dollar.
"For the third and each succeeding day, or fraction of a day.. ..Five dollars."

Effective December 5, 1921.

F. B. CARVELL,
Chief Commissioner.

OTTAWA, November 23, 1921.

GENERAL ORDER No. 350

In the matter of the increases in freight rates and sleeping and parlor car fares, authorized under the General Order of the Board No. 308, dated September 9, 1920:

And in the matter of the Board's powers under section 325 of the Railway Act, 1919.

File No. 31214

Whereas the Board has decided that there should be a general reduction in the tolls which were increased under its General Order No. 308, dated September 9, 1920,—

It is ordered as follows:—

1. That the railway companies operating steam railways subject to the jurisdiction of the Board file tariffs, effective December 1, 1921, providing for the following reductions in domestic freight rates within Canada, excepting transcontinental commodity rates (hereinafter mentioned) and rates on coal, crushed stone, sand, and gravel, as follows:—

(*a*) In the territory east of and including Westfort, Fort William, and Port Arthur, Ont., rates based upon twenty-five per cent over the rates in effect prior to September 13, 1920.

(*b*) In the territory west of and including Port Arthur, Fort William, and Westfort, Ont., rates based upon twenty per cent over the rates in effect prior to September 13, 1920.

(*c*) On through rates between eastern and western territories, the above named percentages shall apply to the eastern and western factors respectively.

(*d*) Recognized differentials in commodity rates to be preserved as far as practicable.

(*e*) Transcontinental commodity rates shall be constructed on the basis of an increase of twenty-three and one-third per cent over the rates in effect prior to September 13, 1920.

2. That sleeping and parlor car fares be reduced to the basis of twenty-five per cent over the fares in effect prior to September 13, 1920.

3. Provided that no rates at present in effect be increased under the provisions of this general order.

And it is Further Ordered:

4. That this order shall not apply to the minimum class scale established by Order in Council P.C. 1863, nor to switching rates and charges for special services, such as milling-in-transit, stopover, demurrage, and weighing.

5. That, in working out the rates authorized under this order, fractions be disposed of as set out in the said Order in Council P.C. 1863.

F. B. CARVELL,
Chief Commissioner.

OTTAWA, November 24, 1921.

GENERAL ORDER No. 351

In the matter of the General Order of the Board No. 350, dated November 24, 1921, providing for certain reductions in domestic freight rates, excepting transcontinental commodity rates, within Canada; also in sleeping and parlor car fares.

File No. 31214

The Board Orders: That the said General Order No. 350, dated November 24, 1921, be, and it is hereby, amended by adding the following clause to paragraph 1 of the order, namely:—

"(*f*) That rates on cordwood, slabs, edgings, and mill refuse for fuel purposes be restored to the basis in effect prior to September 13, 1920."

F. B. CARVELL,
Chief Commissioner.

OTTAWA, November 26, 1921.

GENERAL ORDER No. 352

In the matter of the application of railway companies subject to the jurisdiction of the Board for approval of reduced standard freight tariffs of maximum mileage tolls to become effective December 1, 1921.

File 31214.12

Whereas standard freight tariffs have been filed by the undermentioned railway companies, to become effective December 1, 1921, on the reduced basis prescribed by General Order of the Board No. 350, dated November 24, 1921,—

The Board Orders: That the following standard freight tariffs of maximum tolls be, and they are hereby, approved; the rate scales of the said tariffs to be published in at least two consecutive weekly issues of the *Canada Gazette* preceded by the following notice:—

"The undermentioned standard freight tariffs having been filed for the approval of the Board of Railway Commissioners for Canada, and having been found by the Board to be in accordance with its General Order No. 350, dated November 24, 1921, and having been approved by the General Order of the Board No. 352, dated December 1, 1921, the rate scales thereof are hereby published."

		C.R.C. No.
Algoma Central and Hudson Bay Railway		579
Algoma Eastern Railway		320
Atlantic, Quebec and Western Railway	Supplement No. 1 to	83
Boston and Maine Railroad		2088
British Columbia Electric Railway		191
Canadian National Railways	Supplement No. 1 to	E-177
	Supplement No. 1 to	E-178
		W-185
Canadian Pacific Railway		E-3904
		W-2613
Central Canada Railway		74
Central Vermont Railway		1647
Cumberland Railway and Coal Company		14
Dominion Atlantic Railway		688
Edmonton, Dunvegan and British Columbia Railway		158
Esquimalt and Nanaimo Railway		498
Essex Terminal Railway		600
Fredericton and Grand Lake Coal and Railway	Sup. No. 5 to	103
Glengarry and Stormont Railway		178
Grand Trunk Railway		E-4576
Grand Trunk Pacific Railway		485
Great Northern Railway		1735
		1736
		1737
		1738
Kettle Valley Railway		283
Maine Central Railroad		C-2087
Michigan Central Railroad		3066
Napierville Junction Railway		246
New Brunswick Coal and Railway	Supplement No. 5 to	70
New York Central Railroad		2475
		2476
Pere Marquette Railway		2364
Quebec Central Railway		806
Quebec, Montreal and Southern Railway		750
Quebec Oriental Railway	Supplement No. 1 to	101
Temiscouata Railway	Supplement No. 1 to	413
Thousand Island Railway		403
Toronto, Hamilton and Buffalo Railway		1329
Toronto Suburban Railway		7

F. B. CARVELL,
Chief Commissioner.

OTTAWA, December 1, 1921.

CIRCULAR No. 191

February 8, 1921.
Case No. 4704

RULES FOR WIRE CONSTRUCTION ALONG OR ACROSS RAILWAYS OR ACROSS OR NEAR OTHER LINES, WIRES, CONDUCTORS, STRUCTURES OR APPLIANCES

Referring to circular No. 186, dated January 5, 1920, applying General Order No. 231, dated May 6, 1918, and the conditions and specifications thereby approved, to construction along as well as across the railway.

Since section 372, subsection 1 (*b*) applies to construction across or near other lines, wires, conductors, structures, or appliances within the legislative authority of the Parliament of Canada, where, therefore, the construction, whether along or across the railway or across or near other lines, wires, conductors, structures, or appliances, is by consent and in accordance with the Standard Conditions and Specifications set out in the schedule to General Order No. 231, and approved by that order, no further leave of the Board is necessary.

A. D. CARTWRIGHT,
Secretary.

CIRCULAR No. 192

June 15, 1921.

EXPLOSION OF LOCOMOTIVE BOILERS

File 16513

Some time ago there was an explosion in the boiler of a locomotive, and, upon the arrival of the Board's Inspector, it was found that the water glass mountings, all gauge cocks, and left top check had been taken off the boiler and forwarded to the company's offices.

When such accidents occur in future, the Board desires it to be distinctly understood that the appurtenances in connection with the water supply of the locomotive boiler must not be removed from the boiler and in no way interfered with until after the Board's Inspector has completed his inspection.

In this connection reference is made to clause 50 of the Board's General Order No. 78, requiring the railway company concerned to send to the Board's Chief Operating Officer, at Ottawa, a telegraphic report of such occurrences, and stating where the locomotive may be inspected.

By Order of the Board,

A. D. CARTWRIGHT,
Secretary.

CIRCULAR No. 193

August 12, 1921.

HAND-HOLDS OVER THE DOORWAYS, INSIDE OF BAGGAGE, MAIL AND EXPRESS CARS

File 31162.

A recent investigation held by the Board's Operating Department into a serious accident discloses the fact that hand-holds over the doorways, inside of baggage, mail and express cars, etc., are not at all times secured to the frame of the cars as they should be; nor do they comply with the safety regulations prescribed in General Order No. 102.

The attention of the railway companies is called to this condition and they are requested to have their equipment looked over as quickly as possible and strengthen the means of fastening these hand-holds, where necessary, so that a repetition of the accident referred to above will be guarded against.

By Order of the Board,

A. D. CARTWRIGHT,
Secretary.

CIRCULAR No. 194

OTTAWA, October 19, 1921.

Re DUTIES OF RAILWAY COMPANIES AS TO FENCING

File No. 27920.1

Numerous complaints are being made to the Board as to inefficient fencing by railway companies along their right of way, and it appears to the Board that, in many cases, these complaints are being viewed from the wrong standpoint.

For many years prior to 1911, the Railway Act contained a provision that, in some cases, fencing was not required unless specifically so ordered by the Board. This is found in the Railway Act, 1906, section 254, subsection (4), which reads as follows:—

> "254. (4) Whenever the railway passes through any locality in which the lands on either side of the railway are not inclosed and either settled or improved, the company shall not be required to erect and maintain such fences, gates and cattle-guards unless the Board otherwise orders or directs."

By chapter 22 of the Acts of 1911, section 9, subsection (4) of section 254 was repealed, and the following enacted in lieu thereof, viz:—

> "4. The Board may, upon application made to it by the company, relieve the company, temporarily or otherwise from erecting and maintaining such fences, gates and cattle-guards where the railway passes through any locality in which, in the opinion of the Board, such works and structures are unnecessary."

This is found in the present Railway Act as section 274, subsection (4).

It will thus be seen that it is the duty of every railway company to fence every portion of its right of way unless specifically relieved from so doing by an order of the Board, and, in the future, the Board is of opinion that, whenever an application is made for fencing, it should go as a matter of right, unless the railway company can show valid reasons why they should be brought under the provisions of the present Act, section 274, subsection (4).

By order of the Board,

A. D. CARTWRIGHT,
Secretary.

CIRCULAR No. 195

OTTAWA, October 25, 1921.

FREIGHT RATE CHANGES

File No. 606.1

The Board is of the opinion that it should have available each day a condensed statement of proposed rate changes in freight tariffs as filed. The railways subject to the Board's jurisdiction are, therefore, requested to file in triplicate, with the filing

advice, a statement which shall show, in connection with schedules which advance or reduce rates formerly in effect, the following information:—

(*a*) The C.R.C. number of the tariff or supplement.
(*b*) The effective date.
(*c*) The commodity affected (if published under an item number, proper reference thereto to be given).
(*d*) The points from, to or between which the rates apply.
(*e*) The amount of increase or decrease.
(*f*) A concise statement of the reason for the rate changes.

If changes are made in regularly scaled class tariffs, a statement of the increase or decrease in the first-class rate will be sufficient.

If there is a general revision of class rates, such as those resulting from consolidation of railways, shortening of lines, new routes, etc., a general statement will be sufficient.

These statements should be headed "Freight Rate Changes," and should be numbered consecutively.

By order of the Board,

A. D. CARTWRIGHT,
Secretary.

INDEX TO JUDGMENTS

A

PAGE

Agricultural implement parts, classification of 72
Alberta Department of Railways and Telephones *re* stopping in transit carloads of telephone poles for treatment 132

B

Bell Telephone Co. *re* district rates (increase 12 per cent) 8
Bell Telephone Co. v. Town of Dundas, *et al*—Increased rate, changes in service charges, etc. 9
B. C. Telephone Co. *re* increase in exchange, rentals and charges 14, 124
B. C. Telephone Co. increase in tolls and Rural Municipality of Nelson, B.C..... 154

C

Canadian Fisheries Ass'n. v. Canadian Express Co. 31
Canadian Fisheries Ass'n. *re* reduction in switching charges, Prince Rupert, B.C..... 146
Canadian Freight Classification *re* Item 10, Supplement 10 to C.F.C. No. 16..... 108
Canadian Freight Ass'n. *re* Ruling Sec. 14, Interswitching Order 100
Canadian Pacific Railway *re* recovery of triple damages on livestock shipments to U.S. points 159
Canada West Coal Co., Ltd., *et al, re* rates on coal 99
Calgary Livestock Exchange, Complaint of, *re* valuation of settlers' live stock 57
Car Demurrage Rules 130
Car Rental, Malcolm MacKay Ltd., St. John, N.B., *re* C.P.R. 96
Cartage tariffs of Railway Companies, Complaint Toronto Board of Trade 13
Classification of Agricultural implement parts 72
Coal Briquettes *re* cancellation of commodity rates on Nukol Fuel Co. of Canada, Ltd. 127
Coal rates, reduction in, in Western Canada, per Fuel Dealers' Ass'n. of Greater Winnipeg 82
Coal rates from Lethbridge and Crow's Nest districts to Winnipeg, *re* Canada West Coal Co., Ltd. 99
Consumers' Metal Co., Ltd., Montreal, *re* rates on scrap iron, Canada to United States.. 129
Cooperage stock *re* classification of, Sutherland Innes Co. Ltd. 129
Crossings, steam and electric Rys. *re* interpretation of sections under Railway Act.... 59

D

Demurrage Rules—Car 130
District Rates *re* Bell Telephone and Municipalities 8
Dominion Sugar Co. *re* reduction in rates on Sugar Beets 11
Dominion Millers' Ass'n. *et al re* stop-off charges on grain 151
Drumheller Alta., Spur, Newcastle Junior Mining Co. 34
Dundas, Town of, *et al*, Ont., v. Bell Telephone Co. Increased rates, changes in service charges, etc. 9

E

Exchange on passenger charges on International traffic between Canada and United States 14
Exchange on freight charges, International traffic 43
Exchange, rentals and charges for service. Increase, B.C. Telephone Co. 14, 124
Express Tolls, Appl'n. for 40 per cent increase 11, 51
Express Classification, reduction in Ice Cream 94
Express Cos'. Appl'n. 40 per cent increase in rates 11, 51

F

PAGE

Farm crossing, Appl'n. of Abraham and Samual Yacowar 102
Fesserton Lumber Co., Ltd., *re* rates on raw wood material for manufacture of laths... 133
Fish, rates on 31
Freight charges, exchange on International Traffic 43
Freight rates and sleeping and pullman car rates, *re* proposed reductions in 138
Fruit and vegetables, unloading of carloads from Ontario stations to points in Maritime Provinces 104
Fuel Dealers' Ass'n. of Greater Winnipeg *re* reduction in rates on Coal in Western Canada 82

G

Grain, stop-off charges on, *re* Dominion Millers' Ass'n., *et al* 151
Grain, rates on, Levis Chamber of Commerce 121

H

Hart type of wooden packing for frogs *re* equipment of railways with 55
Hy Grade Coal Co., Ltd., compensation for construction, Canadian National Railways spur 34

I

Ice Cream and returned empties *re* National Dairy Council of Canada and reduction in 95
Ice Cream, reduction in Express Classification 94
Increase in exchange rentals and charges for service, B.C. Telephone Co. 14, 124
International Bridge between Bridgeburg and Black Rock, passenger fares on 135
Interswitching Order No. 252, Ruling on Sec. 14 100
International traffic *re* exchange on freight charges between Canada and United States 43
International traffic, Canada and United States—Exchange on passenger charges..... 14

L

Lake Erie & Northern and Grand River Ry. Cos. Standard Freight and Passenger Tariffs 88
Laths, rates on raw material for manufacture of 133
Lévis Chamber of Commerce *re* reduction in rates on grain 121
Liquors, *re* rate on, and supplement 15 to C.F.C. No. 16 56
Livestock shipments to United States points *re* recovery of triple damages from C.P.R. 159
Livestock, valuation settlers' shipments 57

M

Malcolm MacKay, Ltd., St. John, N.B., *re* C.P.R. car rental..... 96
Marconi Wireless Telephone Co. *re* increased rates 13
Michigan Central Ry. Co. *re* subway in City of St. Thomas 46

N

National Dairy Council of Canada *re* rates on Ice Cream and returned empties..... 95
Nelson, B.C., Rural Municipality of, *re* increase in tolls of B.C. Telephone Co..... 154
Newcastle Junior Mining Co. spur, Drumheller, Alta. 34
Nipissing Central Ry. Co., advance in passenger tolls 109
Nukol Fuel Co., Ltd., Toronto, *re* cancellation of Commodity Rates on Coal Briquettes 127

O

Office furniture *re* classification minimum weight of mixed carload 122
One-man operated cars, operation of by St. Thomas Street Ry. 92
Ontario Fruit Growers' Ass'n., *et al*, and Express Companies *re* unloading of carload fruit and vegetables 104

P

Passenger charges, International Exchange, Canada and United States 14
Passenger fares on International bridge between Bridgeburg and Black Rock..... 135
Passenger tolls, advance in, Nipissing Central Ry. Co. 109
Pulpwood, rates on, from Canadian points to Union Bag & Paper Co.'s mills 62
Pullman, Parlour and Sleeping Car Rates 138

R

PAGE

Rates on coal from Lethbridge and Crow's Nest districts to Winnipeg, per Canada West Coal Co. 99
Rates on coal, reduction in rates in Western Canada, per Fuel Dealers' Ass'n. of Greater Winnipeg 82
Rates on Scrap Iron, Canada to United States 129
Rates on grain, per Chamber of Commerce, Levis, P.Q. 121
Rates on freight in and out of Simcoe, Ont. 53
Rate on Liquors, (Supplement 15 to C.F.C. No. 16) 56
Rockcliffe *re* Bell Telephone service tolls 76
Rubber Ass'n. of Canada *re* revised rates on rubber tires and tubes 123
Rubber tires and tubes, revised rates on 123

S

Scrap iron *re* rates on from Canada to United States, and Consumers Metal Co., Ltd. 129
Security Traffic Bureau *re* construction of Item 10, Supplement 10 to C.F.C. No. 16..... 108
Settlers' livestock, valuation of 57
Sections 306 and 307 Ry. Act, 1919, Interpretation *re* crossings (steam and electric).... 59
Silver Standard Mining Co. v. G.T.P. 50
Simcoe, Ont., rates on freight in and out of 53
Sleeping, Pullman and Parlour car fares *re* proposed reductions 138
Standard track centres 85
Standard freight and passenger tariffs, Lake Erie & Northern and Grand River Ry. Cos. 88
Steam and Electric Railway crossings, *re* interpretation of Sections of Railway Act.. 59
Stop-off charges on grain 151
St. Thomas St. Ry. *re* operation of one-man operated cars 92
St. Thomas City, Ont., v. M.C.R. Co. *re* subway 46
Sugar beets, rates on in carloads 11
Sutherland Innes Co., Ltd., *re* classification of cooperage stock similar to lumber rate basis 129
Switching charges, reduction in, Canadian Fisheries Ass'n., Prince Rupert 146

T

Telephone Toils, Bell Telephone, increase 12 per cent 8
Telephone poles *re* stoppage in transit for treatment 132
Telephone tolls, Bell Telephone Co. *re* service in Rockcliffe 76
Toronto Board of Trade *re* cartage tariffs of Railway Companies..... 13
Town Tariffs, rates in and out, Simcoe, Ont. 53
Track Centres, Standard 85
Triple damages, recovery of on livestock shipments to U.S. points 159

U

Union Bag & Paper Co., rates on pulpwood from Canadian points 62
Unloading of carload fruit and vegetables at stations, Ontario to Maritime Provinces and Western Canada 104

W

Western Union and G.N.W. Telegraph Companies and Marconi Wireless Telephone Co. *re* increase in rates 13
Wooden packing for frogs, wing rails, guard rails, and switches, *re* equipment of railways with Hart type 55

Y

Yacowar, Abraham and Samual *re* farm crossing 102

Z

Zinc concentrates, overcharge on shipment, Silver Standard Mining Co. v. G.T.P.R 50

FIFTY-FOURTH ANNUAL REPORT

OF THE

DEPARTMENT OF MARINE AND FISHERIES

FOR THE

FISCAL YEAR 1920-21

MARINE

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1922

[No. 21—1922]

To General His Excellency the Right Honourable Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O., Governor General and Commander in Chief of the Dominion of Canada.

MAY IT PLEASE YOUR EXCELLENCY:

I have the honour to submit herewith, for the information of Your Excellency and the Parliament of Canada, the Fifty-fourth Annual Report of the Department of Marine and Fisheries, Marine Branch.

I have the honour to be,

Your Excellency's most obedient servant,

C. C. BALLANTYNE,
Minister of Marine and Fisheries.

DEPARTMENT OF MARINE,
OTTAWA, November, 1921.

TABLE OF CONTENTS

REPORT SUBMITTED BY MINISTER.

REPORT OF DEPUTY MINISTER. Subjects paged in summary below.

A

PAGE

America's Merchant Marine 9, 10
Australian Shipbuilding Programme, 1920-21 ..... 14, 15
Agency reports 83–88
- Halifax agency 83
- Pictou, N.S., sub-agency 83
- Sydney, N.S., sub-agency 84
- Charlottetown, P.E.I., agency 84
- Quebec agency 84, 85
- Victoria, B.C., agency 85
- Prince Rupert, B.C., agency 85
- Fort William, Ont., sub-agency 85, 86
- Kenora, Ont., sub-agency 86
- Parry Sound, Ont., agency 86
- Prescott Depot agency 86, 87
- Montreal agency 87
- St. John, N.B., agency 87, 88

B

British Dominions mercantile shipbuilding, 1920 4

C

Comparative costs of shipbuilding and ship operating in Britain, pre-war and 1920 6
Canadian Ports, marine activities 12
Canadian Government shipbuilding programme 13, 14
Canadian shipbuilding plants, operations of 15–17
Canadian Vickers, Ltd 16
Collingwood Shipbuilding Co., Ltd 17
Coughlan & Sons, Ltd 17
Canadian Shipping, Statistics of 18–23
Chief Engineer's report on—
- Office work 24
- Publications 24
- Removal of obstructions to navigation 24
- Maintenance and repairs to wharves 24, 25
- Ice-breaking 25
- New aids to navigation—
  - Nova Scotia 25
  - New Brunswick 25
  - Prince Edward Island 26
  - Quebec 26
  - Montreal district 27
  - Ontario 27
  - Victoria 27
  - Prince Rupert 28
- Changes and Improvements in existing aids—
  - Nova Scotia 25
  - New Brunswick 25, 26
  - Prince Edward Island 26
  - Quebec 26
  - Montreal district 27
  - Ontario 27
  - Victoria 27
  - Prince Rupert 28

Commissioner of Lights' Report—
- Statement by districts showing the number of lights of the several orders, lightships, light-boats, light-keepers, fog signals, buoys, submarine bells, etc 28
- Statement of unlighted aids to navigation maintained in—
  - New Brunswick district 29
  - Nova Scotia district 29, 30
  - Prince Edward Island district 30, 31
  - Quebec district 31, 32

PAGE

Commissioner of Lights' Report—*Con.*
Statement of unlighted aids to navigation maintained in—*Con.*
Montreal district 32
Prescott district 32
Parry Sound district 32, 33
Kenora district 33
Manitoba district 33
Victoria district 33
Prescott district 33
Charlottetown, P.E.I., agency report 84
Correspondence 102

D

Davie Shipbuilding and Repairing Co., Ltd 15

E

Expenditure and Revenue, Marine Department, 1920-21 ..... 49, 50, 102

F

Fort William, sub-agency report 85, 86
France, mercantile shipbuilding, 1920 5
Fuel Oil supply, world's 8

G

General review, mercantile shipbuilding, 1920 5

H

Halifax Shipyards, Ltd 17
Halifax agency report 83
Harbour Commissioners, reports 89–98
Quebec 89–91
Three Rivers 91, 92
Vancouver 92, 94
Pictou 95
Montreal 95, 98
Holland, mercantile shipbuilding, 1920 4

I

Italy, mercantile shipbuilding, 1920 ..... 4, 5

J

Japan, mercantile shipbuilding, 1920 4
Jones Shipping Act 10, 11

K

Kenora sub-agency report 86

L

Lloyds shipbuilding returns of merchant vessels (steam and sail) under construction for quarter ended June 30, 1920 1
Lloyds statement of steam tonnage of chief maritime countries before and after the war 2
Lloyds mercantile shipbuilding, 1920 3–5
Lloyds statement world output merchant vessels, 1920 5
Lloyds statement, comparative costs, shipbuilding and ship operating in Britain pre-war and 1920 6
Lloyds statement, percentage cost of running, 1920, compared with 1911 6
Legislation, new 103

M

Mercantile shipbuilding, 1920, Lloyds statement 3–5
Merchant marine, America's 9, 10
Marine activities, Canadian ports 12
Midland Shipbuilding Co., Ltd 15

PAGE

Meteorological Service, Report of Director 50–62
New stations 50, 51
Central office 51, 52
Physics Branch 52
Climatology, etc 53
Magnetic observations 53–55
Time service 55, 56
Solar observations 56
Seismological observations 56, 57
Phenological observations 57
Quebec Observatory—report of Director 57
St. John Observatory—report of Director 57–59
Victoria, B.C. Observatory—report of Director 59, 60
McGill University Observatory—report of Director 60–62
Masters and Seamen Branch—Report of Superintendent 81
Montreal Agency report 87
Montreal Harbour Commission report 95–98
Marine Department, correspondence 102

N

Nova Scotia Steel and Coal Co., Ltd 16
New Legislation 103
Navigation, season of 103

O

Oil versus Coal as ships fuel 6–8
Operations, Canadian Shipbuilding plants 15–17

P

Percentage cost of running, 1920, compared with with 1914, Lloyds statement 6
Port Arthur Shipbuilding Co., Ltd 16
Pilotage—report of Superintendent 81, 82
Pictou sub-agency report 83
Prince Rupert agency report 85
Parry Sound agency report 86
Prescott depot, Ont., report 86, 87
Port Wardens reports 88, 89
Pictou Harbour commission report 95
Pacific Salvage Co., Ltd., report 99

Q

Quebec agency report 84, 85
Quebec Harbour Commission report 89–91
Quebec Salvage and Wrecking Co., report 99

R

Revenue and Expenditure 49, 50, 102
Reports, Port Wardens 88, 89
Returns of Shipping Masters 100–102
Quebec 100
New Brunswick 100
Nova Scotia 100, 101
Prince Edward Island 101
British Columbia 102

S

Shipbuilding returns of merchant vessels (steam and sail) under construction for the quarter ended June 30, 1920, Lloyds statement 1
Steam tonnage of principal maritime countries before and after the war, Lloyds statement 2
Scandinavian countries, mercantile shipbuilding, 1920 4
Spain, mercantile shipbuilding, 1920 5
Summary mercantile shipbuilding, 1920 5
Ships fuel, oil versus coal 6–8
Shipping Act, Jones 10, 11
Shipbuilding Programme, Canadian Government 13, 14
Shipbuilding Programme, Australian, 1920-21 ..... 14, 15
Shipbuilding plants, operations of 15–17
Shipping, Canadian statistics of 18–23

PAGE

Statement of vessels built in Canada and registered, 1920 18
Statement of vessels built in Canada in 1920, and exported without being registered 18
Statement of number of vessels and number of tons on Registry books of the Dominion of Canada, on December 31, 1920 ..... 19, 20
Statement of number of vessels removed from registry books of the Dominion of Canada during year ended December 31, 1920 21
Statement of number of men and boys employed on ships registered in Canada, 1920 21
Statement, comparative, showing the number of vessels and number of net tons on the registry books of the Dominion of Canada, on December 31, in each year, from 1911 to 1920, inclusive 22
Statement, comparative, of vessels built and registered in the Dominion of Canada and their net tonnage during the year ended December 31, in each year 1911 to 1920, inclusive 23
St. Lawrence River Ship Channel, report of Superintending Engineer 34–47
General information 34
Dredging operations, 1920 ..... 34, 35
Division I (Montreal to Sorel) 34, 35
Division II (Sorel to Batiscan) 35
Division III (Lake St. Peter) 35
Division IV (Batiscan to Quebec) 35
Division V (Quebec to Goose Cape) 35
Thirty-foot project, end of 1920 36
Thirty-five-foot project, end of 1920 36
Depth of water in ship channel, 1920 36
Tidal semaphores 36
Sweeping ship channel 36
New aids, season 1920 37
Accidents in 1920 ..... 37, 38
Marine signal service 38, 39
Improvements in signal service 40
Ice-breaking 40, 41
Average monthly depth in 27½ foot channel O.L.W. 41
Average monthly depth in 30 foot channel E.L.W. (1897) 41
Cost of ship channel to date 42
Progress of dredging operations, 30 foot project 42, 43
Progress of dredging operations, 35 foot project 43, 44
Abstract of work of dredging fleet 45
Classification of disbursements 46
Details of dredging and cost per cubic yard 47
Sorel Shipyard, report of officer-in-charge 48
Signal Station, Halifax, N.S., record of shipping 82
Sable Island, report of Superintendent 82
Sydney, N.S. sub-agency report 84
St. John, N.B., agency report 87, 88
Season of navigation 102
Steamboat inspection 103

T

Tidewater Shipbuilders, Ltd 17
Three Rivers Harbour Commission report 91, 92

U

United Kingdom, mercantile shipbuilding, 1920, Lloyds statement 3
United States, mercantile shipbuilding, 1920, Lloyds statement 3, 4

V

Victoria, B.C., agency report 85
Vancouver Harbour Commission report 92–94

W

World output of merchant vessels, 1920, Lloyds statement 5, 6
World's fuel oil supply 8
Wallace Shipbuilding and Drydock Co., Ltd 15
Wreck Commissioner's Report 62–80
Statement of investigations into wrecks and casualties 62–66
Statement of coasting and sea-going wrecks 67–77
Statement of inland waters wrecks 78–80
Wrecking Companies reports 99

Y

Yarrows, Limited 15, 16

REPORT

OF THE

DEPUTY MINISTER OF MARINE AND FISHERIES

To the Honourable C. C. Ballantyne,
Minister of Marine and Fisheries.

Sir,—I have the honour to submit herewith my report for the fiscal year ended March 31, 1921.

The chief feature of the shipping situation in 1919 was the remarkable output of tonnage from American yards, which actually exceeded 4,000,000, and amounted to 57 per cent of the world's entire output for that year. The British output for 1919 was 1,620,442 tons; America accordingly, for the time being, and by a wide margin, occupied the foremost place among shipbuilding nations.

At the same time it was pointed out in last year's report that America was apparently not in a position to maintain this tremendous rate of building; for though her output for 1919 exceeded 4,000,000 tons, her shipping in hand at the beginning of 1920 fell just short of 3,000,000 tons, Britain's programme at the same time being almost identical, there being a difference of only 2,000 tons in favour of America.

It was surmised that 1920 might see Britain again asserting her ancient supremacy as the leading shipbuilding nation. Lloyds returns herewith given would seem to bear this out.

Lloyds Register Shipbuilding Returns of Merchant Vessels (Steam and Sail) under Construction for the quarter ended June 30, 1920.

Date.	Country.	No. of ships under construction.	Gross tons.
June 30, 1920	United Kingdom	941	3,578,153
June 30, 1920	Canada	84	209,405
June 30, 1920	Other Dominions	31	59,394
	Total for the Empire	1,056	3,846,952
June 30, 1920	United States	414	2,105,956

In the rest of the world there were under construction on June 30, 1920, 725 ships, totalling 1,767,996 gross tons.

The Empire's total tonnage nearly equals the high-water mark of building reached by America at the end of March, 1919, when she had in hand 4,185,523 tons of shipping.

The true significance of these returns becomes more marked if we go back to the period of April 1, 1919. At that time the United States' shipbuilding programme was 4,185,523 tons; Britain's, 2,254,845 tons. In the space of fifteen months the figures have been almost reversed, and American production cut in half.

Lloyds points out that the great stimulus given to British shipbuilding during this momentous period was largely due to work on the Clyde. Of the United Kingdom tonnage, 3,578,153, the Clyde yards had in hand 1,260,777 tons, which was more than one-third of the United Kingdom total, and 208,000 tons more than half the American tonnage in prospect. Tonnage in hand in other Scottish yards amounted to: Aberdeen, 119,743 tons; Dundee, 62,380; Leith, 65,458; a total for Scotland of 1,508,358 tons, only 280,718 tons short of one-half the entire United Kingdom tonnage under construction on June 30, 1920.

An encouraging feature of the revival of the British shipbuilding industry since the armistice, has been the steady and persistent nature of its growth.

At the time of the armistice, November, 1918, Britain had under construction 1,746,993 tons of shipping; in March, 1919, she had over 2,000,000 tons; in March, 1920, 3,000,000 tons; and on June 30, 1920, 3,578,153 tons.

LLOYDS STATEMENT OF THE STEAM TONNAGE OWNED BY THE PRINCIPAL MARITIME COUNTRIES BEFORE AND AFTER THE WAR.

Country.	June, 1914.	June, 1920.	Difference between 1914 and 1920.
	Tons, gross.	Tons, gross.	Tons, gross.
United Kingdom	18,892,000	18,111,000	−781,000
British Dominions	1,632,000	2,032,000	+400,000
America (United States)—			
Seagoing	2,027,000	12,406,000	+10,379,000
Great Lakes	2,260,000	2,119,000	−141,000
Austria-Hungary	1,052,000	Nil.	
Denmark	770,000	719,000	−51,000
France	1,922,000	2,963,000	+1,041,000
Germany	5,135,000	419,000	−4,716,000
Greece	821,000	497,000	−324,000
Holland	1,472,000	1,773,000	+301,000
Italy	1,430,000	2,118,000	+688,000
Japan	1,708,000	2,996,000	+1,288,000
Norway	1,957,000	1,980,000	+23,000
Spain	884,000	937,000	+53,000
Sweden	1,015,000	996,000	−19,000

It will be seen in comparing June, 1914, with June, 1920, that British tonnage had decreased by 781,000 tons, that of the Dominions increasing by 400,000, leaving a deficit of only 381,000 tons for the British Empire for 1920 as compared with 1914.

Besides new construction the 1920 figures for Britain and the Dominions also include ex-enemy tonnage allocated to British management.

In the space of about eighteen months after the close of war, despite the enormous losses inflicted on its merchant marine, the Empire had practically regained its pre-war maritime strength.

America shows an increase of sea-going tonnage of 10,379,000, Japan of 1,288,000, France of 1,041,000 (largely by purchase and allocation of ex-enemy tonnage), Italy of 688,000 (largely by purchase and allocation of ex-enemy tonnage), and Holland of 301,000.

The tonnage of Austria-Hungary has been wiped out, and German tonnage has dropped from the five million mark to less than half a million.

Among the allied countries Greece after Great Britain shows the heaviest decline, 324,000 tons. Danish tonnage has dropped by 51,000, and Swedish by 19,000.

Spanish tonnage shows an increase of 53,000, and Norwegian, despite terrific submarine losses, of 23,000.

World's shipping was increased by 8,501,000 tons.

Mercantile Shipbuilding, 1920.

The returns here given are from Lloyds Register's Annual Summary, are in gross tons, and comprise only merchant ships of 100 gross tons or upwards.

As complete totals for German shipbuilding are not available, Germany has been omitted from the returns.

UNITED KINGDOM

During 1920 there were launched in the United Kingdom 618 merchant ships of 2,055,624 tons (viz: 556 steamers of 1,953,014 tons, 25 motor vessels of 86,940 tons, and 37 sailing vessels and barges of 15,670 tons).

These vessels were all built of steel with the exception of three wooden vessels of 660 tons, and seven vessels of reinforced concrete of 3,794 tons.

As the output in 1919 was 1,620,442 tons, the 1920 output exceeds it by 435,182 tons, about 26 per cent more. The 1920 output is also higher by 142,371 tons than the high record of 1913.

Whereas in 1919, 94 per cent of the output was for home registration and only 6 per cent for foreign owners; in 1920 about 41 per cent (846,403 tons) was for owners abroad, and 1,209,221 tons for registration in the United Kingdom.

Of the 1920 tonnage on foreign account, 286,644 tons were for Norwegian owners, 201,662 for French owners, and 131,589 for Italian owners.

The average tonnage of ships launched, excluding those of less than 500 tons, was 4,387 tons, as compared with 4,006 in 1919, 4,593 in 1918, 4,933 in 1917, 4,080 in 1916, and 3,791 in 1915.

During the year 25 motor-boats of 86,940 tons were launched, 11 of these were of 5,000 tons and upwards, and the 3 largest of 9,500 tons.

As in 1919, the Clyde basin yards were responsible for the greatest part of the United Kingdom output. Glasgow district 457,032 tons, Greenock 223,434 tons, a total of 680,466 tons for the Clyde basin, an increase of 154,719 tons over the 1919 production; Newcastle 365,775 tons, an increase of 125,939 tons as compared with 1919; Sunderland 314,454 tons, 40,171 tons more than in 1919; Middlesbrough 195,452 tons, 75,509 tons more than in 1919; and Belfast 117,656 tons, 82,964 tons less than in 1919.

At the beginning of 1920, 2,994,249 tons of shipping were under construction in the United Kingdom; at the end of September, 1920, 3,731,098 tons; at the beginning of 1921, 3,708,916 tons; the drop of 22,000 tons, though slight, indicates a decline in the British shipbuilding industry, and Lloyds is of the opinion that the shipbuilding figures at the beginning of 1921, though still high, are not a true indication of the shipbuilding situation in Britain in the near future, which is due for a decline.

UNITED STATES

American output for 1920 amounted to 2,476,253 tons, 1,599,132 tons less than in 1919, accounting for 92 per cent of the reduction in the total world tonnage launched in 1920.

On the Atlantic coast the tonnage output was reduced by 17.3 per cent as compared with 1919, on the Gulf coast by 31.6 per cent, on the Pacific coast by 60 per cent, and on the Great Lakes by 74 per cent.

Despite this reduction in output the 1920 figures were five and a quarter times more than the 1907 figures, the pre-war record year, and accounted for 42 per cent of the world's output for 1920, and 65 per cent of the total built abroad.

On the Great Lakes 127,528 tons of shipping were launched, including 4 steamers, totalling 33,222 tons for lake service.

Of the total 1920 tonnage, 1,500,000 tons of vessels were fitted with steam turbines, and 29,000 tons of vessels with internal combustion engines of the Diesel type.

Eighty-eight oil-carrying steamers, tonnage 567,000, were launched; 73 of which of 510,000 tons were built on the Isherwood system of longitudinal framing; about 85 other vessels, totalling about 558,000 tons, were also built on this system, a total of 1,068,000, or a little less than half the American output for 1920.

The American tonnage comprised 119 steamers of between 5,000 and 6,000 tons, 152 of between 6,000 and 10,000 tons, and 15 of 10,000 tons and upwards.. Seven turbine steamers of about 13,500 tons each were launched; five by the New York Shipbuilding Corporation, and two by the Newport News Shipbuilding and Drydock Company.

The returns include five vessels of reinforced concrete of 19,000 tons, one of 6,000 tons burden, and two of 5,000 tons.

JAPAN

Japan's output of 456,642 tons was 155,241 tons less than in 1919. It formed 34½ per cent of the total tonnage launched abroad exclusive of the United States, and nearly equals the entire output of Japan during the ten pre-war years 1904-1913.

Japan's total for 1920 only includes steel steamers, of which 30 were between 5,000 and 6,000 tons each and 21 between 6,000 and 10,000 tons each.

BRITISH DOMINIONS

The Dominions' output for 1920 was 155,000 tons lesss than in 1919, amounting to 203,644 tons.

Canada contributed 159,551 tons, about 112,000 tons less than in 1919. On the Great Lakes were launched 13 steel steamers of 29,087 tons. On the Atlantic and Pacific coasts and the St. Lawrence 17 steel steamers of between 5,000 and 6,000 tons each were launched.

Tonnage launched in the other Dominions amounted to 44,093 tons; one-half of this was in the Hong-Kong district, where two ships of 5,100 tons each were built.

HOLLAND

Holland increased her 1919 tonnage output by 46,000 tons, the total 1920 tonnage amounting to 183,149; these figures do not include vessels used exclusively for river navigation.

The 1920 total comprises seven vessels fitted with internal combustion engines, including two of 5,370 and 5,155 tons respectively, and also three vessels of 19,000 tons fitted with steam turbines.

Two vesselss of 8,100 tons each were launched and seven vessels of between 5,000 and 7,500 tons each.

SCANDINAVIAN COUNTRIES

Denmark, Norway, and Sweden, launched during 1920 163,347 tons of shipping, 17,032 tons more than in 1919. Denmark increased her output by 22,903 tons, Sweden increased hers by 12,852 tons, and Norway's was decreased by 18,723 tons.

The total included four vessels of between 5,000 and 5,600 tons each launched in Sweden, and three motor vessels launched in Denmark of between 5,900 and 7,150 tons each.

The tonnage of steel vessels fitted with internal combustion engines launched in Denmark, viz., 24,352, is the largest for any European country outside of the United Kingdom.

ITALY

Italy's output for 1920 of 133,190 tons shows an increase over that of 1919 of 50,477 tons. The output of Trieste, 29,191 tons, is included. The totals comprised

nine steamers of between 5,000 and 5,800 tons, one of 6,500 tons and the *Caracciolo* of about 25,000 tons, a former warship now converted into a merchant vessel. Including this latter vessel eight vessels with a total tonnage of 63,208 were fitted with steam turbines.

FRANCE

French shipbuilding shows a distinct revival; the 1920 output of 93,449 tons exceeded the 1919 one by 60,786 tons. French production is still, however, below the pre-war figures. The French built during 1920 six steamers of between 5,000 and 6,700 tons and one of about 9,500 tons.

SPAIN

Spain's 1920 output of 45,950 tons fell short of her 1919 one by 6,659 tons. It included five steamers of between 5,000 and 6,000 tons, and the *Alfonso XIII*, a turbine steamer, of 10,137 tons.

SUMMARY

	Tons.
United States	2,476,253
United Kingdom	2,055,624
Japan	456,642
Canada, 159,551 tons, other Dominions 44,093 tons	203,644
Holland	183,149
Scandinavian countries (Denmark, Norway, Sweden)	163,347
Italy	133,190
France	93,449
Spain	45,950

GENERAL REVIEW

A marked feature of the shipbuilding situation during 1920 has been the decline of the industry in the United States. At the close of December, 1919, the United States had 2,966,515 tons of shipping in hand, at the end of December, 1920, she had 1,310,312 tons in hand a decrease of 1,656,203 tons; American shipbuilding had been more than cut in half.

In foreign countries other than the United States the tonnage building at the end of 1920 was 260,000 tons more than that in hand at the end of 1919.

The increase in France amounted to 181,000 tons, in Holland to 123,000 tons. Japanese shipbuilding decreased by 61,000 tons and Canadian by 52,000 tons.

At the end of 1920 the United States had under construction 1,310,000 tons of shipping, Holland 451,000 tons, France 398,000 tons, Italy 364,000 tons, and Japan 249,000 tons.

WORLD'S TOTAL OUTPUT OF MERCHANT VESSELS DURING 1920.

Where Built.	Steamers.		Motor Vessels.		Sailing Vessels and Barges.		Total.	
	No.	Gross tons.	No.	Gross tons.	No.	Gross tons.	No.	Gross tons.
United Kingdom	556	1,953,014	25	86,940	37	15,670	618	2,055,624
*Other Countries	907	3,599,993	75	103,037	159	103,012	1,141	3,806,042
Total for the world	1,463	5,553,007	100	189,977	196	118,682	1,759	5,861,666

*Excluding Germany, complete figures for which country are not yet available.

Lloyds table shows the world's total output of merchant ships during 1920 to have been 5,861,666 tons, a decrease of 1,282,883 tons as compared with 1919, but an increase of more than two and one-half million tons over the output for 1913 the pre-war record year.

In 1920 the United Kingdom launched 35 per cent of the world's output, as compared with 22⅔ per cent in 1919 and 58 per cent in 1913. Of the 1920 world's output about 1,825,000 tons of vessels were fitted with steam turbines.

During the years 1918-20 new construction added to the world's merchant shipping about 18½ million tons.

Comparative Costs of Shipbuilding and Ship Operating in Britain; Pre-War and 1920

The tables here given are taken from Lloyds list, January 21, 1921.

COST OF BUILDNG A 10,000 TO 11,000 TONS D.W. SHIP

	1913-14	1920
Labour (hull)	£ 18,000	£ 52,400
Labour (engines and boilers)	6,300	13,600
Material (hull)	38,000	100,000
Material (engines and boilers)	11,600	37,200
	£ 73,900	£ 203,200

The cost of shipbuilding in 1920 was about 275 per cent higher than in 1913-14.

PERCENTAGE COST OF RUNNING, 1920, COMPARED WITH 1913-14

	Coasting and home p.c.	Foreign p.c.
Bunkers	327	473
Provisions	...	286
Deck and engine stores	163	326
Wages	184	233
Port disbursements	102	190
Insurances	131	321
Repairs and survey	193	358
Total (exclusive of management and depreciation)	149	280

This table was compiled by taking the average cost of operation of seven coasting trade steamers ranging from 1,125 to 2,500 tons d.w., and the average cost of operation of twelve overseas steamers ranging from 3,200 to 8,350 tons d.w. The percentage increase is given for the items stated. Under "port disbursements" are included loading and discharging, pilotage, brokerage and commission, trimming, dues, agency and dispatch.

The operating costs for coasting vessels in 1920 were 149 per cent higher than in 1913-14; and for foreign-going ships 280 per cent higher.

The present cost of building and operating merchant ships, coupled with the fall in ocean freight rates, account for the present depressed state of British shipbuilding; and as somewhat similar conditions prevail in the other chief maritime countries, for the general depression in the shipbuilding and allied trades.

Oil versus Coal as Ships' Fuel

Although in the British navy the use of oil as fuel for ships has for some time been general, it is only recently that the leading British passenger steamship companies have engaged in building oil-burning ships, and in converting coal burners into oil burners.

The superior speed of oil-burning ships has been proved conclusively, and this has a great effect on competition in the sea-carrying passenger trade, as people generally prefer to travel by the faster ship.

For a long time the leading shipping men and the leading marine papers in Britain were somewhat skeptical about the superiority of oil to coal as a fuel for general use in the merchant marine; but of late expert opinion in Britain has been steadily inclining in favour of oil.

The London *Engineer* of February, 1919, makes some interesting comparisons between oil and coal as steam raising fuels, the result of extensive experiments carried out by the British navy. The points in favour of oil over coal are: (1) radius of action increased by 50 per cent on equal bunker weight, and by 80 per cent on equal bunker space; (2) up to 83 per cent thermal efficiency instead of 60 per cent (in America thermal efficiency as high as 84.5 per cent has been obtained by using Mexican fuel with the pressure system of oil burning in Scotch marine boilers); (3) boilers can be forced up to 50 per cent above normal rating; (4) control of smoke; entire absence of smoke screen as desired; (5) reduction of labour by about 70 per cent; (6) constructional advantages; (7) bunkering at sea.

The Information Bureau of the United States Shipping Board gives some interesting facts regarding the relative merits of oil and coal as fuel for ships. A ton of oil used in Diesel internal combustion engines gives six times the power of a ton of coal with turbine or reciprocating engines. A ton of oil used in oil-burning boilers of turbine or reciprocating engines will give twice the power of a ton of coal used with the same types of engines.

In the case of an 8,800 tons deadweight steel ship plying with full cargo between New York and Liverpool in March, 1919, the maximum cost of fuel at that time was $1.12 for oil and $0.84 for coal per cargo ton. Oil fuel for this ship was 16.1 per cent and coal fuel 12 per cent of the total cost of operation.

The length of the route makes a substantial difference. For the same type of ship plying between Norfolk, Va., and Valparaiso, the costs were $1.52 for oil as against $1.42 for coal per cargo ton. The chief advantages of oil over coal are: cutting down of crew, saving in fuel consumption, greater speed, and increased cargo space. Minor advantages are lower cost of wages and subsistence for officers and men, less expenditure for interest and depreciation on stores and supplies, and sometimes insurance.

Possibly the most important advantage of oil is the increased cargo space afforded by its use.

In the case of a 10,000 deadweight tons ship on a voyage of 7,000 miles using oil-burning boilers with turbine or reciprocating engines the saving in cargo space for fuel would amount to 800 tons; were the same ship to use Deisel internal combustion engines the saving in cargo space would be 1,340 tons.

Taking $50 a ton as a fair average value for cargo space, an additional capacity of 800 tons would in the case of this ship mean a saving of $40,000.

In the new American Merchant Marine the use of oil has become very general, as is shown by the approximate statement of oil-burning and coal-burning ships and their tonnage at the beginning of 1920 given by the United States Shipping Board:—

	Oil Burning	Coal Burning	Total
Number of vessels	1,188	518	1,706
Total deadweight tons	8,965,978	2,481,408	11,447,386

The information Bureau of the United States Shipping Board gives in detail some examples of the operations of American oil-burning ocean ships in 1918 and 1919.

The *Mount Hood*, 4,600 deadweight tons, in a voyage of 7,900 miles from San Francisco to Chile and back to Mobile, burnt 1,600 barrels of oil, her average consumption being 0.2 of a barrel, or 8.4 gallons per mile.

By installing oil burning engines on the *San Juan* and the *Ponce* of the New York and Porto Rico line, their steaming radius was increased to 6,000 miles, an addition of 2,500 miles to their former radius. Under coal the *San Juan* had a speed of 10½ knots, under oil of 12 knots. The removal of the San Juan's coal bunkers added 500 tons to her deadweight capacity and gave her an increased passenger space. The use of oil engines reduced the number of her engine crew from 78 to 68.

The *Sagaporack*, a 7,500 deadweight tons oil-burning cargo boat, carried only 38 men, about the same number usually carried on a 3,500 deadweight ton coal-burner plying on the Great Lakes.

The *Empress of Britain*, 14,189 gross tons C.P.O.S. liner, and the first Canadian transatlantic liner to use oil-burning engines arriving in Quebec in September, 1920, found that on the passage from Liverpool to Quebec she had used 1,453 tons of Mexican crude oil, as against 1,800 tons of coal under the old system. She maintained an average speed of 18.56 knots. Under coal she required 120 stokers and trimmers; this was reduced to 27 with oil.

The White Star liner *Olympic* on being converted into an oil burner, reduced her engine room crew by 153. She carries 27,000 barrels or 5,200 tons of oil in her double sides, a new departure in ship construction.

The logs of a number of United States Shipping Board vessels indicated that on turbine or reciprocating steamers about 1.25 barrels of oil per indicated horse-power were used. On motor ships (Diesel engines) the rate was 0.5 of a barrel per indicated horse-power.

It is estimated that beginning with 1921, approximately 60,000,000 barrels of oil will be needed for ships operated by the United States Shipping Board; this excludes private constructions after August 1, 1919.

Mr. Charles M. Schwab, head of the Bethlehem Shipbuilding Company, announced in September, 1920, that the company's chief designer, Arthur West, had perfected a Diesel two-cycle internal combustion heavy oil engine which produced the same horse-power as the old four-cycle engine of nearly twice its size, and that, too, with a saving of about 67 per cent in oil fuel cost, as compared with steam-driven oil-fired engines.

He stated that in his opinion this engine was admirably adapted for use in large cargo ships.

Should the West engine in actual practice fulfil, or even partially fulfil these predictions with regard to increased power and diminished cost of fuel, it will mean a distinct advance in the production of marine oil-burning engines, and make more imperative the possession of supplies of fuel oil for maritime nations.

World's Fuel Oil Supply

The oil supplies of the world in April, 1921, are thus estimated by *Shipping*:—

Country	Barrels	
United States	7,000	millions
Canada	1,000	"
Mexico	5,000	"
Northern South America	6,000	"
Southern South America	4,000	"
Algeria and Egypt	1,000	"
Persia and Mesopotamia	8,000	"
Russia	10,000	"
Roumania and Western Europe	1,500	"
Northern Russia and Saghallen	1,000	"
Japan and Formosa	1,500	"
China	2,000	"
India	1,000	"
East Indies	4,000	"
Australasia	1,000	"
Total	54,000	millions

NOTE:—42 gallons to the barrel, 5.2 barrels to the ton.

America's Merchant Marine

The tables here given are taken from the report of the United States Commissioner of Navigation, June 30, 1920:—

Number and Tonnage of American Sea-going Ships (Foreign and Coasting) of 1,000 gross tons or over from June 30, 1917 to June 30, 1920.

June 30.	Sailing and Schooner Barges Wood and Steel.		Steam and Gas Vessels.				Total.	
			Wood.		Steel.			
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
1917	327	538,196	41	58,895	660	2,696,368	1,028	3,293,459
1918	315	518,216	91	161,425	874	3,627,251	1,280	4,306,892
1919	329	533,580	293	693,541	1,436	6,072,901	2,058	7,300,022
1920	397	642,260	377	933,424	2,065	9,270,418	2,839	10,846,102

Comparing June 30, 1920, with June 30, 1919, American sea-going merchant tonnage increased by 3,546,080.

The peak of American shipbuilding was reached in 1919; since then a number of the larger shipyards, including Hog island with fifty ways, have been abandoned, and American output has steadily declined; but the fact remains that to-day America is easily the second maritime power, with a sea-going fleet twice as large as Germany's at the outbreak of war.

It was not until 1917 that the United States started serious shipbuilding operations. In the space of three years she has trebled her overseas shipping, the figures for 1917 being 3,293,459 tons, and for 1920, 10,846,102.

Number and Gross Tonnage of Steel Sea-going Ships Classified According to Sizes, June 30, 1920

Gross tons	No.	Gross tons
1,000-2,000	96	157,986
2,000-3,000	605	1,501,627
3,000-4,000	271	945,702
4,000-5,000	167	773,043
5,000-6,000	436	2,447,055
6,000-7,000	332	2,111,898
7,000-8,000	95	704,202
8,000-9,000	33	278,020
Over 9,000	30	350,885
Total	2,065	9,270,418

This table shows that very nearly one-half of the total American steel sea-going tonnage on June 30, 1920, was made up of ships ranging between 5,000 and 7,000 gross tons or 8,000 and 11,200 in deadweight tons. The American practice conforms to the opinion generally held that this size of ship gives, as a rule, the best return on outlay.

TOTAL AMERICAN MERCHANT TONNAGE, JUNE 30, 1917 to JUNE 30, 1920.

June 30.	Foreign Trade.	Coasting Trade.		Total.
		Great Lakes.	Sea and River.	
1917	2,446,399	2,769,824	3,654,814	8,871,037
1918	3,603,706	2,708,523	3,612,289	9,924,518
1919	6,669,726	2,635,680	3,601,894	12,907,300
1920	9,928,595	2,595,062	3,800,367	16,324,024

The astonishing growth of America's merchant marine between 1917 and 1920 is due entirely to the increase of her overseas shipping; the coastwise tonnage has declined slightly, the exact figures being 6,434,638 for 1917, and 6,395,429 for 1920; whereas the overseas tonnage between 1917 and 1920 has quadrupled. In 1914 only about 10 per cent of the total value of American exports and imports was carried in American bottoms. In 1920 45 per cent of the total value of America's exports and 39 per cent of the total value of her imports were carried by American ships.

Jones Shipping Act

On June 4, 1920, this Bill introduced by Senator Wesley L. Jones, of the state of Washington, passed both houses of Congress, and received the President's assent, and was signed by him and became law on June 5, with the exception of section 34, from the provisions of which the President dissented and which for the present remains inoperative.

In many respects the Bill is practically a new American Merchant Marine Act, conferring on the United States Shipping Board powers not previously possessed by it, regulating the sale of American ships to aliens, allocating ex-enemy tonnage, revising completely the laws relating to coastwise shipping, and providing for the building up of an American bureau of shipping to serve as a sort of American Lloyds.

Two of its sections, Nos. 28 and 34, have aroused wide controversy both in the United States and abroad.

Section 28 by giving high preferential rates on all American railways to imports and exports carried in American bottoms in the Pacific trade, practically closes all American Pacific ports to foreign shipping, which owing to discriminatory railway rates could only be operated at a distinct disadvantage in competition with American ships.

Section 21 of the Act also brings the Phillipines under the new American Coastwise Shipping law.

Not only have Britain, Japan, Norway, and other maritime countries expressed their disapproval of the provisions of section 28, but a number of American Pacific ports, in particular Seattle, are strongly opposed to it, pointing out that it will have the effect of driving foreign shipping from American Pacific ports to Canadian Pacific ports, or to American Atlantic and Gulf ports, to which the section does not apply.

Mr. C. J. France, Executive Secretary of the Seattle Port Commission, stated that 75 per cent of the raw material for American manufactures came from the Orient, that the Pacific ports were 3,000 miles nearer this source of supplies than the Atlantic and Gulf ports, and that any diversion of trade from the former to the latter would be to the detriment of American manufacturers, and make it more difficult for America to compete with Japan, Holland, Great Britain, and other maritime nations in the business of the Far East. To this the Shipping Board replied that American tonnage would replace foreign tonnage in the Pacific trade.

Despite this a number of American shipping interests and shipping men endorsed the attitude of the Seattle Port Commission, contending that should foreign countries retaliate and impose discriminatory rates and duties on American shipping entering foreign ports a severe check might be given to the world wide activities of America's merchant marine.

The chief objections of a number of American Pacific ports to section 28 of the Act are thus summed up:—

(1) That it will create ill-feeling with foreign nations, who will not hesitate to adopt retaliatory measures against American ships entering foreign ports.

(2) That it is a wrong form of subsidy if it be a subsidy at all. It is agreed that American vessels must be subsidized but it should be done in such a way as not to cause international ill-feeling and complications.

(3) Foreign and American ships can compete at New York and other Eastern ports on equal terms; consequently shipping will be diverted from the Pacific.

(4) If section 28 is applied, foreign ships can also be diverted to British Columbia ports and there enjoy equal privileges.

(5) Neither the Shipping Board nor the Interstate Commerce Commission can control rail rates via the Canadian lines except for the small portion of the haul which is within United States territory.

(6) Much of the Pacific traffic is under routing control of interests favourable to shipping in foreign bottoms.

Section 34 of the Act reads: "That in the judgment of Congress, articles or provisions in treaties or conventions to which the United States is a party, which restrict the right of the United States to impose discriminating customs duties on imports entering the United States in foreign vessels and in vessels of the United States, and which also restrict the right of the United States to impose discriminatory tonnage dues on foreign vessels and on vessels of the United States entering the United States should be terminated, and the President is hereby authorized and directed within ninety days after this Act becomes law to give notice to the several Governments, respectively, parties to such treaties or conventions, that so much thereof as imposes any such restriction on the United States will terminate on the expiration of such periods as may be required for the giving of such notice by the provisions of such treaties or conventions."

The chief countries with which the United States had treaties providing for a common footing in shipping both in direct and indirect trade were:—

Argentine	1853	Liberia	1862
Belgium	1875	New Grenada	1849
Bolivia	1858	Netherlands	1852
China	1880	Norway	1827
Denmark	1826	Ottoman Porte	1862
Greece	1837	Paraguay	1859
Honduras	1864	Spain	1902
Italy	1871	Sweden	1827
Japan	1894		

And in direct trade only:—

Costa Rica	*1822	Great Britain	1815

*Permits limited discrimination.

The President disapproved of section 34 on the grounds, first, that America had entered into these treaties for her own advantage, and that to abrogate them now, merely because she considered it in her interest to do so, would be a violation of good faith, and a blow at the sanctity of treaties generally; and, second, that in the event of the countries involved retaliating, as would be probable, it would mean a rate war for which America would be responsible, and which might have an injurious effect on her foreign trade.

Although there was a diversity of opinion among American shipping journals and shipping interests as to the advisability of enforcing this section of the Act, such high authorities as the New York *Journal of Commerce*, Mr. G. F. Trowbridge, former President of the American Importers and Exporters Association, and Mr. P. A. S. Franklin, President of the International Mercantile Marine Company, supported the views taken by the President.

The linking up of the leading German lines with American shipping companies, and the drastic provisions of sections 28 and 34 of the Jones Act, both of which shipping policies had the active support of the United States Shipping Board, would seem to indicate that this body under the chairmanship of Admiral Benson is preparing to make a determined bid, with German aid, for the maritime supremacy of America.

Marine Activities Affecting Canadian Ports

During the first nine months of 1920, from January to September, inclusive, more steamship routes from Canadian ports were inaugurated than in the previous fifteen years. This was largely due to the enterprise of the Canadian Government Merchant Marine.

The Canadian Government Merchant Marine opened up a new service from Vancouver, B.C., to Australian and New Zealand ports, and a new service is contemplated between Eastern Canada and South Pacific ports. One of their vessels, the *Canadian Raider,* has been put on the Montreal to New Zealand route via the Panama canal, conveying Eastern Canadian products to the Antipodes. The ships plying to Australia secure wool for their chief return cargoes.

New freight services have been established by the Canadian Government Merchant Marine to London, Liverpool, and Glasgow, from Montreal; and summer services from St. John, N.B., and Halifax, N.S., to various British ports. They have now also regular summer sailings from Montreal to the West Indies, and to Brazil and Argentina, a regular service from Halifax to the British West Indies and fortnightly to Cuba, and a weekly service from St. John, N.B., to Cuba and the Babamas.

The products of the farms, forests, and fisheries of Eastern Canada form the principal export cargoes to the West Indies; the return cargoes consist chiefly of sugar for the Canadian refineries at Halifax, St. John, and Montreal.

The Canada Steamship Lines, in conjunction with the Compagnie Générale Transatlantique, are operating services from Montreal to Havre and Bordeaux and have put two 12,000-ton boats on the Antwerp route.

The Marine Navigation Co. has opened a new service between Montreal and St. Nazaire, France, and another to the east coast ports of South America.

The Norwegian-American Line has sailings from St. John, N.B., to three Norwegian ports, and the Canadian Pacific Ocean Services have boats running from Montreal to Norway and Sweden.

The Cunard has established a new Canadian service to Bristol and Dublin.

The Houston Line has inaugurated a new service between Canada and Buenos Ayres, Montevideo, and Rosario. Pickford and Black are running boats from Halifax to Jamaica and Santiago, Cuba.

The Elder-Dempster Company have added to their service between Canada and five South African ports another between Canada and West Africa; some vessels of the Canadian Government Merchant Marine may participate in this trade; as the Elder-Dempster Company has already a fleet of coasting and river boats operating in West African waters, a large portion of Africa will be opened up to Canadian trade.

In the transatlantic passenger trade in 1920 the new C. P. O. S. oil-burning turbiner *Empress of Canada,* 22,000 tons, will be employed, together with the allocated German liner *Crown Prince Wilhelm* and the liners *Empress of Britain* and *Victorian,* commissioned as auxiliary cruisers during the war.

The Dollar Steamship Line has opened up a new service between Vancouver and ports in China and Japan.

In September, 1920, the *Canadian Pioneer,* 8,390 tons deadweight, began a Canadian service to the East Indies from Montreal, via the Suez canal to Karachi, Bombay, Colombo, and Java. Should trade develop and the situation warrant, other vessels of the Canadian Government Merchant Marine will be employed on these routes.

When some of the Government ships contracted for but not yet completed are put in commission, the opening of a trade route from Vancouver to the Orient is contemplated.

CANADIAN GOVERNMENT SHIPBUILDING PROGRAMME, APRIL 1, 1921

Yard No.	Name.	Builders.	Date of Contract.	D.W. Ton.	Cost per Ton.	Total Cost.	Remarks.
66	Canadian Voyageur.....	Vickers.....	Mar. 4, 1918	4,300	$207 00	$947,025	Built and in commission.
67	Canadian Pioneer.....	"	May 22, 1918	8,390	180 00	1,510,200	" "
61	Canadian Warrior.....	Collingwood.	May 18, 1918	3,990	205 00	817,950	" "
100	Canadian Volunteer ...	Wallace.....	Mar. 15, 1918	4,485	207 00	928,395	" "
106	Canadian Trooper.....	"	Nov. 25, 1918	4,540	217 00	985,180	" "
101	Canadian Aviator.....	"	Nov. 25, 1918	5,100	210 00	1,071,000	" "
102	Canadian Raider.....	"	Nov. 25, 1918	5,100	210 00	1,071,000	" "
62	Canadian Recruit ...	Collingwood.	July 5, 1918	3,990	205 00	817,950	" "
63	Canadian Signaller	"	Oct. 17, 1918	3,990	205 00	817,950	" "
64	Canadian Gunner.	"	Oct. 17, 1918	3,990	205 00	817,950	" "
5	Canadian Settler ..	Tidewater .	Aug. 9, 1918	5,100	200 00	1,020,000	" "
6	Canadian Rancher	"	Aug. 9, 1918	5,100	200 00	1,020,000	" "
7	Canadian Fisher	"	Jan. 24, 1919	5,100	200 00	1,020,000	" "
8	Canadian Forester	"	Jan. 24, 1919	5,100	200 00	1,020,000	" "
459	Canadian Trapper....	Davie .	Sept. 4, 1918	5,100	200 00	1,020,000	" "
460	Canadian Hunter.....	"	Sept. 4, 1918	5,100	200 00	1,020,000	" "
39	Canadian Trader.....	Port Arthur	Sept. 4, 1918	3,400	205 00	697,000	" "
40	Canadian Sailor ..	"	Sept. 4, 1918	3,400	205 00	697,000	" "
41	Canadian Adventurer.	"	Mar. 1, 1919	3,400	210 00	714,000	" "
42	Canadian Sower.....	"	Mar. 1, 1919	3,400	210 00	714,000	" "
1	Canadian Mariner.....	Halifax...	Sept. 13, 1919	8,390	195 00	1,636,050	" "
2	Canadian Explorer.	"	Sept. 13, 1919	8,390	195 00	1,636,050	" "
73	Canadian Navigator.	Vickers. . .	Oct. 11, 1918	4,575	215 00	983,625	" "
68	Canadian Ranger	"	Oct. 11, 1918	8,390	188 00	1,577,320	" "
69	Canadian Seigneur.....	"	Oct. 11, 1918	8,390	188 00	1,577,320	" "
70	Canadian Miller.... ..	"	Oct. 11, 1918	8,390	188 00	1,577,320	" "
71	Canadian Spinner.....	"	Oct. 11, 1918	8,390	188 00	1,577,320	" "
72	Canadian Planter.....	Vickers	Oct. 11, 1918	8,390	188 00	1,577,320	" "
1	Canadian Winner... ...	Victoria	Jan. 24, 1919	8,390	198 00	1,661,220	" "
2	Canadian Traveller.....	"	Jan. 24, 1919	8,390	198 00	1,661,220	" "
15	Canadian Beaver	Collingwood.	Dec. 11, 1918	3,990	205 00	817,950	" "
43	Canadian Runner.....	Port Arthur	Mar. 1, 1919	4,575	215 00	983,625	" "
44	Canadian Carrier.....	"	Mar. 1, 1919	4,575	215 00	983,625	" "
11	Canadian Importer.....	Coughlan...	Nov. 22, 1918	8,390	198 00	1,661,220	" "
12	Canadian Exporter...	"	Nov. 22, 1918	8,390	198 00	1,661,220	" "
13	Canadian Inventor. ..	"	Nov. 22, 1918	8,390	198 00	1,661,220	" "
14	Canadian Prospector..	"	Nov. 22, 1918	8,390	198 00	1,661,220	" "
3	Canadian Cruiser	Halifax.....	Dec. 10, 1918	10,500	197 50	2,073,750	
4	Canadian Constructor..	"	Dec. 10, 1918	10,500	197 50	2,073,750	
5	Canadian Sealer.....	Nova Scotia..	Mar. 31, 1919	2,800	210 00	588,000	Built and in commission.
6	Canadian Miner.. ...	"	Mar. 31, 1919	2,800	210 00	588,000	" "
1	Canadian Reaper	Prince Rupert	Feb. 21, 1919	8,390	198 00	1,661,220	
2	Canadian Thrasher.....	"	Feb. 21, 1919	8,390	198 00	1,661,220	
4	Canadian Otter.....	British American	Jan. 23, 1919	4,575	215 00	983,625	Built and in commission.
5	Canadian Squatter....	"	Jan. 23, 1919	4,575	215 00	983,625	" "
65	Canadian Farmer	Collingwood..	July 1, 1919	3,990	180 00	718,200	" "
66	Canadian Observer	"	July 1, 1919	3,990	180 00	718,200	" "
10	Canadian Pathfinder...	Dominion.....	July 11, 1919	3,500	180 00	630,000	
11	Dominion Engineer.....	"	July 11, 1919	3,500	180 00	630,000	
77	Canadian Victor.	Vickers.....	Sept. 18, 1919	8,390	170 00	1,426,300	" "
78	Canadian Conqueror.	"	Sept. 18, 1919	8,390	180 00	1,426,300	" "
79	Canadian Commander	" ...	Sept. 18, 1919	8,390	170 00	1,426,300	
80	Canadian Leader.....	"	Sept. 18, 1919	8,390	170 00	1,426,300	
10	Canadian Logger... .	Midland.....	Feb. 26, 1920	3,890	180 00	718,200	
103	Canadian Highlander.	Wallace.....	Mar. 18, 1920	8,390	167 50	1,405,325	Built and in commission.
104	Canadian Skirmisher...	"	Mar. 18, 1920	8,390	167 50	1,405,325	
67	Canadian Rover	Collingwood..	Mar. 13, 1920	3,890	182 50	709,925	Built and in commission.
K-16	Canadian Coaster.....	" .	Mar. 13, 1920	3,890	182 50	709,925	
8	Canadian Sapper. ...	Nova Scotia..	. .	2,800	190 00	532,000	Built and in commission.
476	Canadian Challenger..	Davie.. . .	Feb. 2, 1920	8,390	167 50	1,405,325	
45	Canadian Harvester..	Port Arthur	Feb. 26, 1920	3,890	182 50	709,925	
20	Canadian Transporter..	Coughlan....	....	8,350	167 50	1,398,625	
21	Canadian Freighter.....	"	.....	8,350	176 50	1,398,625	

Of the original Government programme of 63 ships, totalling 380,160 tons d.w., 48, tonnage 273,450, have been built and are in commission, leaving 15, tonnage 106,710, still to be completed as follows: two 10,500 tons d.w. ships building at the Halifax Shipyards; three 8,390 tons d.w. ships at the Wallace Shipyards, Vancouver, B.C.; two 3,500 tons d.w. ships and one of 3,890 tons at Collingwood, Ont.; two 8,390 tons d.w. ships at Vickers, Ltd., Montreal; one 3,890 tons d.w. ship at Midland, Ont.; one 8,390 tons d.w. ship by the Davie Shipbuilding and Repairing Co., Levis, P.Q.; one 3,890 tons d.w. ship by the Port Arthur Shipbuilding Co., and two 8,350 tons d.w. ships by Coughlan & Sons, Vancouver, B.C.

A number of the new sea trade routes opened up by the Canadian Government Merchant Marine have already been given under the heading "Marine Activities Affecting Canadian Ports."

At the close of 1919, when about 20 of these ships were in commission, they had carried $21,362,000 worth of Canadian exports; gross earnings were $3,448,030, and net earnings $1,406,000. By the close of 1920 the shipping trade everywhere was adversely affected, and in a marked degree. Competition was keen, due to a glut of shipping and a dearth of cargoes, and ocean freight rates fell sharply, while operating expenses remained high; as a result Canadian shipping in common with world shipping suffered, and although double the number of ships as compared with 1919 were in commission, and these carried about $50,000,000 worth of Canadian exports, the gross earnings fell to $1,293,525, and net earnings, deducting depreciation, outstanding liabilities, and incorporation expenses, to $781,460. Offsets to this cut in the profits are the increase in the volume of the Canadian export trade, due to the ships of the Government Merchant Marine, and the acquisition of new foreign markets.

There were employed on the ships of the Canadian Government Merchant Marine during 1920:

Masters	48
Officers	138
Engineers	183
Seamen, firemen, stewards, etc.	1,305
Total	1,674

Australian Shipbuilding Programme 1920-21

The Department is indebted to Mr. G. H. Knibbs, Commonwealth Statistician, for this statement:—

STEEL STEAMERS

Locality	No.	Builders	Type
Williamstown	8	Commonwealth Ship Construction Branch	Steel Cargo Vessels.
Walsh Island	6	N. S. W. Government	" "
Cockatoo island	4	Commonwealth Navy Department	" "
Maryborough Qsld	2	Walkers Ltd	" "
Adelaide	3	Poole & Steel	" "

The first portion of this programme consisting of 6 vessels of approximately 5,600 tons deadweight has been completed, and the ships in commission, viz: *Delungra, Dinoga, Dilga* (built at Walsh island), *Dromana* and *Dumosa* (built at Williamstown), and *Dundula* (built at Cockatoo island). In addition to these, three further vessels of similar dimensions, but of the Shelter Deck type, and a deadweight capacity of approximately 6,000 tons, have been completed and are in commission, viz: *Emita* (built at Williamstown), and *Eurelia* and *Enoggera* (built at Walsh island). It is expected that the *Eromanga* (built at Walsh island), the *Eudunda* (built at Cockatoo island) and the *Erriba* (built at Williamstown) will very shortly be handed over to the owners.

Of the remainder, nine are to be sister ships to the "E" boats above referred to. One of these, the *Eurimba*, under construction at the yards of Messrs. Poole & Steel, at Adelaide, was launched on 20th April, 1921, the *Echuca* being built at the yards of Messrs. Walkers, Ltd., Maryborough, Queensland, will be launched in May, 1921, while the construction of the hulls of the *Eurora* (Williamstown), the *Echunga* (Walkers, Ltd.), and the *Euwarra* (Poole & Steel) is well advanced.

As soon as practicable, a commencement will be made with the construction of the remaining four vessels of this class, the materials for which have almost all been delivered.

The programme, as will be seen, embraces two other vessels which are to be built at Cockatoo island. These are of a much larger type, 520 feet in length, with a deadweight capacity of 12,800 tons, speed at sea 13 knots, and providing 250,000 cubic feet of insulated space.

It is expected that the whole of this programme will be completed in about three years' time.

Operations of Chief Canadian Shipbuilding Plants

WALLACE SHIPBUILDING & DRYDOCK CO., LTD., NORTH VANCOUVER, B.C.

Vessels built and building during 1920-21 were:—

Name.	Length	Breadth	Depth	Speed Knots	D.W. Tonnage
Canadian Aviator	331′ B.P.	46′ 6″	25′ 6″	10½	5,100
Chilkoot	172′ 10″	30′	14′	9	700
Canadian Highlander	400′ B.P.	52′	31′	11¾	8,350
Canadian Skirmisher	400′ B.P.	52′	31′	11¾	8,350
Princess	307′ B.P.	48′	18′ 6″	17	Passenger steamer

DAVIE SHIPBUILDING & REPAIRING CO., LTD., LAUZON, P.Q.

Vessels built and building during 1920-21 were:—

Name	Length B.P.	Breadth	Depth	D.W. Tonnage	Speed	Flag
Canadian Trapper (Steel)	331′ 0″	46′ 6″	25′ 6″	5,100	12 knots	Canadian.
Canadian Hunter (Steel)	331′ 0″	46′ 6″	25′ 6″	5,100	12 "	Canadian.
Marmoutiers (Wood)	195′ 0″	39′ 8″	17′ 0″	1,430	9½ "	French.
Massevaux (Wood)	195′ 0″	39′ 8″	17′ 0″	1,430	9½ "	French.
Metz (Wood)	195′ 0″	39′ 8″	17′ 0″	1,430	9½ "	French.
Mulhouse (Wood)	195′ 0″	39′ 8″	17′ 0″	1,430	9½ "	French.
Neuf Brisach (Wood)	195′ 0″	39′ 8″	17′ 0″	1,430	9½ "	French.
Obernai (Wood)	195′ 0″	39′ 8″	17′ 0″	1,430	9½ "	French.
Pange (Wood)	195′ 0″	39′ 8″	17′ 0″	1,430	9½ "	French.
Mapledene (Wood)	215′ 0″	36′ 0″	21′ 0″	1,800	10 "	Canadian
Canadian Challenger (Steel)	400′ 0″	52′ 0″	31′ 0″	8,350	11¾ "	Canadian.

MIDLAND SHIPBUILDING CO., LTD., MIDLAND, ONT.

Vessels built and building during 1920-21 were:—

Glenclova, length 246 feet, breadth 42 feet 5 inches, depth 21 feet 5 inches, speed 9 knots, estimated cost $550,000, tonnage d.w. 3,000. *Canadian Logger,* length 251 feet, breadth 43 feet 6 inches, depth 26 feet, speed 11 knots, estimated cost $700,000, tonnage d.w. 4,000.

YARROWS, LIMITED, VICTORIA, B.C.

During 1920-21 the work of this yard was confined to ship repairing. Ships to the number of 115 were repaired, of which 73 were drydocked, total gross tonnage 261,188.

The most extensive repair work was carried out on the G.T.P. passenger steamer *Prince Rupert,* submerged for two and a half months in Swanson bay. The repairs were completed and the ship handed over to the owners in May, 1921.

Three vessels of the Canadian Naval Squadron, including the destroyers *Patriot* and *Patrician,* were also overhauled and repaired; the tonnage of these ships is not included in that already given.

CANADIAN VICKERS, LIMITED, MONTREAL, P.Q.

The following vessels were built and delivered during 1920-21:—

Name	Length	Breadth	Depth	D.W. Tonnage	Speed Knots	Owners
Tatjana	400′	52′	31′	8,261	11¼	Norweigan Interests.
Loch Tay	400′	52′	31′	8,262	11¼	" "
Canadian Victor	400′	52′	31′	8,432	11¾	Canadian Government
Canadian Conqueror	400′	52′	31′	8,407	11¾	" "
Canadian Commander	400′	52′	31′	8,439	11¾	" "

The ss. *Canadian Leader,* 8,430 d.w. tons, speed 11¾ knots, built for the Canadian Government, though built during the fiscal year 1920-21, was not handed over until the opening of navigation in 1921.

The following two vessels were under construction for delivery in the spring of 1921:—

Name	Length	Breadth	Depth	D.W. Tonnage	Speed Knots	Owners
Idefjord	365′	49½	29′	6,400	11½	Norwegian Interests.
Topdalsfjord	365′	49½	29′	6,400	11½	" "

Thirty-four vessels, gross tonnage 154,845, were repaired on the floating dock "Duke of Connaught" during the open season to November, 1920.

The auxiliary machinery department was kept busy throughout the year in the manufacture of cargo winches, windlasses, steering gears and telemotors.

PORT ARTHUR SHIPBUILDING CO., LTD., PORT ARTHUR, ONT.

Ships launched and delivered during the fiscal year 1920-21 were: *Canadian Runner* 4,410 d.w. tons, and *Canadian Carrier* 4,467 d.w. tons.

Ships launched but not delivered were: *Canadian Harvester* 3,950 d.w. tons, *Glenafton* 3,000 d.w. tons.

Repairs were effected to 69 vessels, 48 of which involved repairs to hulls.

NOVA SCOTIA STEEL & COAL CO., LTD., NEW GLASGOW, N.S.

Vessels built and building during 1920-21 were:—

Name.	Length	Breadth	Depth	D.W. Tonnage	Speed Knots	Estimated Cost
Volunda	270′	38′	20′ 6″	2,785	9½	$ 530,000 00
Canadian Snpper	270′	38′	20′ 6″	2,781	9½	530,000 00
Sea King	137′ 10″	28′ 6″	10′ 8″	250	11	176,000 00

COLLINGWOOD SHIPBUILDING CO., LTD. (KINGSTON YARD)

Work during 1920-21 was confined to the Kingston yard, at which the steamer *Canadian Coaster,* 2,422 gross tons, 251 by 43·6 by 23·6 feet, speed 12·2 knots, estimated cost $718,867, was built.

J. COUGHLAN & SONS, LTD., VANCOUVER, B.C.

For the Canadian Government two vessels of 8,100 tons d.w. each were built, approximate cost $1,600,000 each. For Swedish owners two ships of 8,800 tons d.w. each, approximate cost $1,500,000 each, were built. Three other ships of 8,800 tons d.w. each were built on account of the firm for future sale.

In addition miscellaneous ship repair work to the value of $25,000 was carried out during the season.

TIDEWATER SHIPBUILDERS, LIMITED, THREE RIVERS, P.Q.

During 1920-21 two ships were built for the Canadian Government, the *Canadian Fisher,* 5,100 tons d.w., 331 by 46·6 by 25·6, feet, speed 12 knots, and the *Canadian Forester* of similar tonnage, dimensions, and speed.

Two engines were built for the two 10,500 tons d.w. ships building at the Halifax shipyards for the Canadian Government, and one for the *Canadian Challenger* building at the Davie plant. Three boilers were built for the *Canadian Challenger* and four for the *Canadian Constructor,* 10,500 tons d.w., building at the Halifax Shipyards, Limited.

HALIFAX SHIPYARDS, LTD., HALIFAX, N.S.

The building of the two largest ships of the Canadian Government Merchant Marine, the *Canadian Cruiser,* and the *Canadian Constructor,* 10,500 tons d.w. each, was undertaken by this yard, both ships to be completed during the summer of 1921.

STATISTICS OF CANADIAN SHIPPING

Statement of Vessels Built in Canada and Registered during the Year 1920

Province	Wood									Metal									Totals		
	Sailing			Steam			Gas			Sailing			Steam			Gas					
	Tonnage			Tonnage			Tonnage			Tonnage			Tonnage			Tonnage			Tonnage		
	No	Gross	Net	No	Gross	Net	No	Gross	Net	No	Gross	Net	No	Gross	Net	No	Gross	Net	No	Gross	Net
Nova Scotia	60	14,785	12,417	14	2,403	1,199	12	961	768				1	1,789	1,056				87	19,938	15,440
New Brunswick	1	5	5	2	93	60	2	48	38										5	146	103
Prince Edward Island	3	231	229				1	49	41										4	280	270
Quebec	20	3,343	3,053	20	8,009	4,582	19	1,063	773				23	66,029	39,895				82	78,444	48,303
Ontario	1	20	20	8	560	259	3	55	23				2	4,503	2,702				14	5,138	3,004
Manitoba																					
Saskatchewan				1	289	147													1	289	147
British Columbia	36	4,374	4,374	8	1,475	801	82	1,319	811				9	47,806	29,447	1	116	79	136	55,090	35,512
Yukon																					
Totals	121	22,758	20,098	53	12,829	7,048	119	3,495	2,454				35	120,127	73,100	1	116	79	329	159,325	102,779

Vessels Built in Canada during 1920 and Exported without being Registered in Canada

Province	Sailing			Steam					
	Wood			Wood			Steel		
	Tonnage			Tonnage			Tonnage		
	No.	Gross	Net	No.	Gross	Net	No.	Gross	Net
Nova Scotia	1	348	280				2	4,648	2,792
New Brunswick									
Quebec				12	13,829	8,040	2	11,066	6,587
Ontario							3	3,950	2,238
British Columbia							2	11,471	7,057
Total	1	348	280	12	13,829	8,040	9	31,135	18,674

STATEMENT showing the Number of Vessels and Number of Tons on the Registry Books of the Dominion of Canada, on December 31, 1920

Ports	Sailing Vessels			Steam Vessels		
	No.	Gross Tonnage	Net Tonnage	No.	Gross Tonnage	Net Tonnage
New Brunswick						
Chatham	338	8,576	8,299	97	3,728	2,307
Dorchester	2	277	262	2	8	6
Moncton	3	55	53			
Richibucto	21	378	368	15	314	227
Sackville	2	114	101	1	16	11
St. Andrews	125	2,249	2,188	37	761	533
St. John	177	18,675	18,065	97	9,562	6,214
	668	30,324	29,336	249	14,389	9,298
Nova Scotia						
Amherst	2	97	80	3	168	96
Annapolis Royal	14	3,594	3,181	8	493	318
Arichat	76	2,000	1,969	29	469	436
Barrington Passage	43	1,004	974	33	646	580
Canso	41	1,537	1,450	6	108	102
Digby	71	3,763	3,557	16	517	346
Guysboro	6	463	428			
Halifax	169	11,211	10,766	139	24,257	15,288
LaHave	42	10,271	8,468	5	432	325
Liverpool	26	3,421	2,993	25	1,025	576
Lunenburg	226	28,059	22,587	150	3,813	2,941
Maitland	7	930	826	1	88	59
Parrsboro	62	23,058	21,210	15	1,757	1,336
Pictou	11	2,416	2,251	13	4,018	2,445
Port Hawkesbury	41	878	863	9	229	193
Port Medway	6	544	502	5	76	71
Shelburne	42	2,698	2,467	19	888	680
Sydney	62	4,415	4,200	39	2,285	1,167
Truro				1	18	7
Weymouth	27	8,361	7,499	13	812	579
Windsor	32	18,990	17,557	15	4,047	2,559
Yarmouth	106	3,472	3,256	53	9,935	4,942
	1,112	131,182	117,084	597	56,081	35,046
Ontario						
Amherstburg	5	1,300	1,266	8	895	471
Belleville	3	241	217	11	241	144
Bowmanville	2	344	316			
Brockville	1	819	751	14	1,262	858
Chatham	4	566	556	8	339	226
Cobourg						
Collingwood	5	1,122	1,122	45	15,584	10,450
Cornwall				4	123	75
Deseronto	5	403	370	5	48	32
Dunnville	1	87	57			
Fort William	1	413	413	2	4,183	2,539
Goderich	4	675	675	29	1,529	1,016
Hamilton	3	807	780	20	9,160	5,700
Kenora	7	580	580	92	3,523	2,232
Kingston	53	8,217	7,302	103	8,416	4,885
Lindsay	19	1,224	1,224	28	626	416
Midland	7	3,681	3,166	48	59,110	39,402
Napanee	1	122	122			
Oakville	1	26	26			
Ottawa	110	17,365	16,431	213	43,645	22,850
Owen Sound	4	1,619	1,399	30	2,905	1,962
Peterboro	21	1,622	1,622	52	1,086	741
Picton	7	2,285	2,099	8	3,945	2,776
Port Arthur	66	21,841	21,352	77	32,793	20,517
Port Burwell	1	65	65	9	309	171
Port Dover	3	217	217	15	536	343
Port Hope	1	276	276			
Port Stanley				25	1,025	681
Prescott	9	1,473	1,345	13	2,298	1,553
Sarnia	8	2,432	2,250	37	30,286	18,817
Sault Ste. Marie	39	7,644	7,363	48	18,624	11,674
St. Catharines	22	6,004	5,417	46	1,546	993
Simcoe	2	36	36	2	35	18
Southampton	1	96	50	11	410	278
Toronto	65	14,259	12,408	268	100,565	63,943
Wallaceburg	2	490	475	9	381	264
Whitby						
Windsor	15	2,657	2,530	15	6,115	3,570
	498	101,008	94,278	1,295	351,543	219,597

STATEMENT showing the Number of Vessels and Number of Tons on the Registry Books of the Dominion of Canada, on December 31, 1920—*Concluded*

Ports.	Sailing Vessels.			Steam Vessels.		
	No.	Gross Tonnage	Net Tonnage	No.	Gross Tonnage	Net. Tonnage.
Quebec.						
Gaspé	11	456	422	3	266	186
Magdalen Islands	9	441	432	1	135	92
Montreal	282	96,501	92,590	394	413,950	253,103
Paspebiac	16	625	594	6	202	140
Quebec	365	32,478	31,477	162	28,166	16,103
Sorel	27	9,860	8,816	45	11,735	5,487
	710	140,361	134,331	611	454,454	275,111
British Columbia						
New Westminster	102	15,002	14,983	250	8,275	4,933
Prince Rupert	5	2,218	2,128	69	4,036	2,435
Vancouver	289	51,569	51,017	833	147,236	89,476
Victoria	110	22,716	21,680	272	52,361	30,829
	506	91,505	89,808	1,424	211,908	127,673
P. E. Island						
Charlottetown	112	7,184	6,718	31	7,074	3,275
Saskatchewan						
Prince Albert	1	145	145	3	449	248
Manitoba						
Winnipeg	16	3,921	3,921	67	7,908	6,198
Yukon						
Dawson	.....	.....	.....	4	1,204	813

RECAPITULATION

Province	Sailing Vessels			Steam Vessels		
	No.	Gross Tonnage	Net Tonnage	No.	Gross Tonnage	Net Tonnage
New Brunswick	668	30,324	29,336	249	14,389	9,298
Nova Scotia	1,112	131,182	117,084	597	56,081	35,046
Ontario	498	101,008	94,278	1,295	351,543	219,597
Quebec	710	140,361	134,331	611	454,454	275,111
British Columbia	506	91,505	89,808	1,424	211,908	127,673
Prince Edward Island	112	7,184	6,718	31	7,074	3,275
Saskatchewan	1	145	145	3	449	248
Manitoba	16	3,921	3,921	67	7,908	5,198
Yukon	..	....	.....	4	1,204	813
Totals	3,623	505,630	475,721	4,281	1,105,010	676,259

STATEMENT showing Number of Vessels Removed from the Registry Books of the Dominion of Canada during the Year ended December 31, 1920

Sold to foreigners	58
Wrecked	129
Stranded	23
Lost	35
Broken up	680
Abandoned at sea	14
Collisions	3
Foundered	50
Burnt	46
Missing	1
Registry no longer required	12
Transferred to St. John's, Nfld	31
Transferred to Great Britain	2
Transferred to New Zealand	1
Transferred to British West Indies	4
Transferred to British Guiana	1
Total	1,090

It is estimated that 33,618 men and boys, etc., inclusive of masters, were employed on ships registered in Canada during the year 1920.

COMPARATIVE STATEMENT showing the Number of Vessels and Number of Net Tons on the Registry Books of the Dominion of Canada, on December 31, in each Year from 1911 to 1920, both inclusive

Province.	1911.		1912.		1913.		1914.		1915.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
New Brunswick	966	55,872	1,001	57,369	1,031	60,020	1,052	55,522	1,068	56,219
Nova Scotia	2,105	142,631	2,158	143,295	2,106	138,107	2,098	135,053	2,087	125,567
Quebec	1,511	193,682	1,566	227,048	1,628	247,225	1,663	259,143	1,590	267,897
Ontario	2,014	236,877	2,017	253,376	2,012	279,642	2,100	314,660	2,111	312,971
Prince Edward Island	149	9,683	148	9,577	149	10,071	149	10,029	158	11,518
British Columbia	1,227	122,264	1,376	136,618	1,506	15,306	1,591	147,192	1,643	144,835
Manitoba	96	6,373	95	6,096	93	5,545	103	7,999	84	7,480
Yukon District	15	2,708	14	2,543	15	2,940	11	2,295	11	2,295
Saskatchewan	5	356	5	356	5	356	5	529	5	530
	8,088	770,446	8,380	836,278	8,545	896,965	8,772	932,422	8,757	929,312

Province.	1916.		1917.		1918.		1919.		1920.	
New Brunswick	1,074	49,817	1,074	49,883	1,043	49,483	1,018	42,050	917	38,634
Nova Scotia	2,064	123,058	2,010	119,805	1,948	124,517	1,965	158,100	1,709	152,130
Quebec	1,452	273,770	1,391	283,942	1,318	175,235	1,340	342,424	1,321	409,442
Ontario	2,116	328,531	2,079	311,283	2,064	312,865	1,986	320,065	1,793	313,875
Prince Edward Island	155	10,652	157	10,955	158	10,805	158	10,726	143	9,993
British Columbia	1,687	145,525	1,734	183,002	1,928	231,513	2,006	207,708	1,930	217,481
Manitoba	95	8,953	5	530	96	9,791	89	9,160	83	9,119
Yukon District	11	2,295	99	9,834	8	2,040	6	1,133	4	813
Saskatchewan	5	530	10	2,204	5	529	5	529	4	393
	8,659	943,131	8,559	971,438	8,568	1,016,778	8,573	1,091,895	7,904	1,151,880

COMPARATIVE STATEMENT of Vessels Built and Registered in the Dominion of Canada and their Net Tonnage during the Year ended December 31, in each Year from 1911 to 1920, both inclusive

Province.	1911.		1912.		1913.		1914.		1915.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
New Brunswick	25	774	44	1,092	45	1,114	31	1,319	22	1,114
Nova Scotia	130	5,340	126	5,853	67	4,899	56	3,303	51	2,982
Quebec	30	2,726	49	5,744	62	8,667	51	6,753	49	7,790
Ontario	42	10,086	71	11,170	38	15,572	78	23,567	38	4,709
Prince Edward Island	4	61	1	34	3	804	2	35	2	24
British Columbia	98	7,781	128	10,647	128	9,000	97	5,867	79	2,057
Manitoba	3	902	1	546	1	18	11	2,899	5	156
Yukon District	...	...	...	...	...	...	...	...	...	...
Saskatchewan	1	66	...	...	...	...	...	...	...	...
	339	27,730	420	34,886	344	40,164	327	43,246	246	18,832

Province.	1916.		1917.		1918.		1919.		1920.	
New Brunswick	22	332	23	1,156	16	2,590	14	3,326	5	103
Nova Scotia	65	7,661	86	14,781	110	27,831	163	43,877	87	15,410
Quebec	51	8,643	32	8,058	26	9,086	46	45,831	82	48,303
Ontario	26	5,507	21	3,949	48	10,098	37	10,858	14	3,004
Prince Edward Island	...	...	...	...	4	78	5	507	4	270
British Columbia	65	4,487	77	17,452	192	54,889	138	23,396	136	35,512
Manitoba	15	1,573	4	881	1	39	4	143	...	...
Yukon District	...	...	...	...	...	...	...	...	...	...
Saskatchewan	...	...	...	...	...	...	...	...	1	147
	244	28,303	243	46,277	397	104,611	407	127,938	329	102,779

REPORT OF B. H. FRASER, M.I.C.E., CHIEF ENGINEER

Office Work

Total plans for twelve months (April 1 to March 31, 1921)	2,033
Charts received and recorded	110
Photographs received and recorded	427
Specifications and bills of material written	60
Notices to mariners issued (comprising 240 subjects)	94

Publications

During the fiscal year 94 Notices to Mariners were issued covering 240 subjects. The following may be especially noted:—

Rules and regulations for navigating the Amherstburg and Livingstone channels in the Detroit river.

Pilotage regulations for the District of Halifax, N.S.

Pilotage regulations for the District of St. John, N.B.

List of stations and procedure to be used in connection with Radiotelegraph Direction Finding.

Information with regard to True Bearings in British Admiralty publications.

Description of improvements to navigable channels by dredging done by the Department of Public Works.

Notices relating to waters outside of Canada were issued covering items relating to Newfoundland, Atlantic and Pacific waters, of the United States, Panama Canal, as well as notices relating to transatlantic subjects.

The annual edition of the "List of Lights and Fog Signals," in three sections, was issued.

Removal of Obstructions to Navigation

Lunenburg Light	A small craft named *Sweetheart* sank in the harbour and was subsequently removed by the owners.
Bear river, N.S.	The bridge which was wrecked and formed an obstruction to navigation was removed by the Provincial Government.
Dalhousie, N.B.	The tug *Gra Ligne*, which sank near the harbour, was removed by the owner.
Richelieu river	The barge *Bengalore*, which was wrecked one mile from Ste. Victoire wharf, was removed by the departmental diver.
Berthier Channel	The barge *Glengarry*, which sank near the upper entrance to Berthier channel, was removed by the owners.
Iberville	Wreck of dump scow in Richelieu river removed by Department of Public Works.
Port Dover, Ont.	Hulk of old vessel removed by the owners, W. F. Kolbe & Co.
Port Weller	Steamer *Muriel W*, which sank at outer entrance of basin, was removed by the Department of Railways and Canals.

Maintenance and Repairs to Wharves

The following is a list of wharves where repairs were attended to by this branch:—

Nova Scotia—
Brooklyn,
Dartmouth,
Digby,
Granville centre,
Isaacs harbour,
Ogilvie wharf,
Peters Island bar
Westport.

New Brunswick—
Annapolis Royal, N.S.
Hampton,
Little river,
Matthews cove,
St. John,
St. Martins.

Prince Edward Island—
Bay view,
Charlottetown,
China point,
Montague,
Souris,
Sturgeon wharf.

Maintenance and Repairs to Wharves—*Concluded*

Ontario—
Aylmer,
Kenora,
Midland,
Prescott,
Roches point,
Rosseau,
Sault Ste. Marie,
Scudder,

Quebec District—
Anse St. Jean,
Matane,
Percé,
Rivière Ouelle,
Roberval,
St. Alphonse,
Ste. Irénée.

British Columbia—
Powell river,
Princce Rupert.

Ice-Breaking

The five-year contract with the Great Lakes Transportation Company, to keep the harbours at the head of lake Superior open for navigation until the 17th December in each year, and to open them in the spring, as soon as the canal at Sault Ste. Marie is open for navigation, is still in force.

Nova Scotia

NEW AIDS TO NAVIGATION

Light Station	Nature of Work
Sauls island	Establishment of an unwatched light.

CHANGES AND IMPROVEMENTS IN EXISTING AIDS

Cap Rond	Repairs to tower, dwelling and outbuildings.
Chebucto head	Repairs to boathouse.
Dartmouth	Transforming bell buoy superstructure from bell to clapper type.
"	Provision of 10-5½ ft. conical buoys.
"	Provision of 10-4 ft. can buoys.
Dover	Repairs to tower.
False passage	Re-erection of beacon.
George island	Repairs to dwelling and construction of new cistern.
Glace bay	Construction of walk from lighthouse to the shore.
Harbour island	Provision and installation of Aga light.
Hobson island	Provision and installation of Aga lantern and 4th order lens.
Liscomb island	Repairs to tower, erection of boathouse and slipway.
Little Hope	Repairs to protection work.
Mainadieu	Repairs to dwelling.
Mary Joseph	Repairs to breakwater.
Mauger beach	Repairs to breakwater and lighthouse.
Owls head	Boathouse moved and construction of slipway.
Sydney bar	Repairs to foundation.
Three top island	Repairs to dwelling.
Westhavor	Light replaced by an unwatched light using the Aga system.

New Brunswick Agency

NEW AIDS TO NAVIGATION

Spencer island	Provision and installation of fog bell.

CHANGES AND IMPROVEMENTS IN EXISTING AIDS

Bunker island, N.S.	Repairs to lighthouse and installation of 4th order lens.
Cape D'Or	Construction of a road.
Cape Sharp, N.S.	Provision of an oil storage tank.
Cherry island	Installation of No. 4 Gamewell mechanism.
Digby Gut, N.S.	Weight box extended to increase the length of run of fog bell and existing box renewed.
Gannet rock	Provision of an oil storage tank.
"	Repairs to low water landing and renewal of concrete blocks.
Grand passage	Installation of a larger bell with engine.
"	Apparatus improved by the installation of a 5th order 360° lens, and Duplex lamp. showing a red light.

CHANGES AND INPROVEMENTS IN EXISTING AIDS—*Concluded*

Lightstation	Nature of work
Green island, N.S.	Repairs to walk, making steps, dwelling shingled, etc.
Grindstone island	Provision of an oil storage tank.
Long Eddy point	Provision of an oil storage tank.
Machias Seal island	Repairs to tramway and dwelling.
" "	Provision of an oil storage tank.
Midjic bluff	Installation of an unwatched light.
Musquash	Installation of improved Reliance clock.
Partridge island	Repairs to roof of fog alarm building, coal shed, and repairs to reservoir.
St. John	Repairs to wharf and buoy shed and other sheds.
"	Six submarine bell buoy floats, placing mooring eyes, etc.
Swallowtail	Fog bell moved to more suitable location.
Tiner point	Installation of new type F diaphone to replace E instrument.
Tongue shoal	Installation of sun valve.
Yarmouth, N.S.	Installation of a trihedron.

Prince Edward Island Agency

NEW AIDS TO NAVIGATION

East river	Establishment of two range lights.
Grand Etang	Erection of pole with shed at base to form the back light of a range.
Little Sands	Establishment of wharf light.
Richibucto cape	Erection of range pole lights with sheds at base.

CHANGES AND IMPROVEMENTS IN EXISTING AIDS

Belle isle, N.E.	Installation of new galvanized iron pipes.
Cape Bauld	The steam fog alarm plant replaced by an oil plant, and minor repairs.
Cape Ray	Steam plant replaced by an oil plant.
Escuminac, N.B.	Repairs to tower.
Flat island, P.Q.	Installation of improved Reliance clock.
Henry island	Installation of double flashing reflector and 35 m/m burner.
Murray harbour	Ballast for protection work.
Pictou, W. end, N.S.	Installation of double flashing reflectors and Canteloupe clock with 35 m/m oil vapour burners.
Fort Bordon	Position of range lights changed.
St. Louis Gully	Erection of range pole lights.
St. Mary Island	Installation of compressors and 10 h.p. engines.

Quebec

NEW AIDS TO NAVIGATION

Lamek	Establishment of wharf light using pressed lens lantern.

CHANGES AND IMPROVEMENTS IN EXISTING AIDS

Cap au Corbeau	Repairs to dwelling and tower.
Cape Salmon	Provision and installation of Reliance clock.
Caribou	Repairs to foundation of front light.
Fame point	Repairs to fog alarm building and coal shed.
Fox river	Back light moved to new site.
Heath point	Repairs to road.
Ile au Marteau	Repairs to chimney and fog alarm building.
"	Installation of duplicate 10 h.p. engines.
Little Belledune, N.B.	Protection work.
Natashkwan	Installation of a Reliance clock.
Paspebiac	Moving shed, repairs to foundation of tower and shelter shed.
Perroquet	Installation of duplicate 10 h.p. engines.
Pointe des Monts	Winter sashes for fog alarm building.
Quebec	Alterations and additions in connection with the re-occupying of part of stores building.
Riviere a la Martre	Air tank placed outside of building and used for storing oil.
Valin river	Repairs to foundation of front lighthouse and construction of wooden trestle.
West point Anticosti	Repairs to lightstation.

Montreal District

NEW AIDS TO NAVIGATION

Legislation	Nature of Work
La Parade	Erection of range lights, front light on a combined ice-resisting concrete pier and tower back, a four section steel skeleton tower, showing catoptric light.

CHANGES AND IMPROVEMENTS IN EXISTING AIDS

Calvaire	Front light moved to new location.
Cape Madeleine	Lighthouse moved to a new site.
Gentilly	Installation of a temporary light.
Ile de Grace	Repairs to back light.
Ile Ronde	Installation of 30" reflector.
Ile Ste. Therese	Protection work upper range front light.
Lotbiniere	Erection of steel skeleton tower, and reinforced concrete foundation pier.
Montreal agency	Provision of six steel ice buoys.
"	New mast for scow *Lenore*.

Ontario

NEW AIDS TO NAVIGATION

Walpole island	Erection of two Aga lights on wooden piles carried out by A. Williston, contractor.

CHANGES AND IMPROVEMENTS IN EXISTING AIDS

Bar point lightship	Lightship sheathed with iron plates and minor improvements.
Bass rock	Erection of day beacon.
Boie Blanc	Tower repointed.
Brighton	Reconstruction of outer range light.
Caribou island	Repairs to wharf.
Corunna	Protection work.
Kingsville	Repairs to back range lighthouse.
Limekiln crossing	Repairs to foundation.
Mohawk island	Repairs to tower and dwelling.
Otter island	Construction of fog alarm building, provision and installation of oil engines and diaphone plant.
Parry Sound agency	Repairs to diving apparatus.
Scow *Parry Sound*	Repairs to hull and capstan.
Pelee passage	Repairs to base of iron tower.
Port Arthur	Provision of ruby chimneys.
Port Colborne	Space between lighthouse tower and fog alarm building converted into a room.
Port Maitland	Fog alarm improved by installation of 3" diaphone and erection of electrically lighted range lights and electric fog bell.
Prescott	Construction of 6 standard gas and bell buoy superstructurea.
"	Construction of 4 gas and bell superstructures and provision of 4 bells.
"	Experimental submarine bell mechanism.
"	Experimenting with Chanteloupe clock mechanism as bell striker.
"	Painting and overhauling engine of *Marafiscan*.
Red Rock	Construction of concrete boat runway.
Rondeau	Repairs to lightkeeper's dwelling.
Thames river	Repairs to tower.
Western islands	Repairs to platform of tower and gully bridged between dwelling and fog alarm building by concrete walk.

Victoria Agency, B.C.

NEW AIDS TO NAVIGATION

Cyril rock	Installation of Aga stake light.
Franklin River	Acetylene gas light on five pile dolphin.
Lewis point	Erection of an unwatched light.

CHANGES AND IMPROVEMENTS IN EXISTING AIDS

Arrowhead	Beacon lighted by an Aga apparatus.
Enterprise reef	Concrete beacon rebuilt.
First Narrows	Repairs to protection work.
Lennard island	Repairs to tower fog alarm building, dwelling, etc.
Northside range	Structure rebuilt and lantern replaced.
Trial island	Repairs to roof of lighthouse.
Victoria	Submarine bell buoy float transformed to take Aga equipment.

PRINCE RUPERT AGENCY, B.C.

NEW AIDS TO NAVIGATION

Lightstation	Nature of work
Striae island	Erection of a gas beacon.
Triple island	Erection of a combined reinforced concrete lighthouse, fog alarm and dwelling by contractor J. H. Hilditch.
CHANGES AND IMPROVEMENTS IN EXISTING AIDS	
Prince Rupert	Erection of two double dwellings for Agency employees, and the installation of electric wiring and fittings.

COMMISSIONER OF LIGHTS' BRANCH

REPORT OF J. G. MACPHAIL, B.A., B.Sc., COMMISSIONER OF LIGHTS

The principal work performed during the fiscal year ended March 31, 1921, has been an extension of the buoy and beacon services, together with the maintenance of lights and other aids to navigation throughout the Dominion, and the maintenance and inspection of public wharves. The operations of this branch are set forth in tabular form in two inclosures.

INCLOSURE No. 1.—Statement, by districts, showing the number of lights of the several orders, lightships, lightkeepers, fog signals, buoys, submarine bells, etc.

—	1st order lights	2nd order lights.	3rd order lights	4th order lights	5th order lights	6th order lights	7th order lights	Gas beacons	Pressed lens lights & other minor types.	Catoptric lights	Electric lights	Total.	Lightships	Lightkeepers	Diaphones	Fog guns and bombs	Fog horns and trumpets
New Brunswick		4	3	24	21	26	55	2	8	12	6	161	1	164	24	1	1
Nova Scotia	3	3	8	32	15	20	39	3	13	44	5	185	1	173	17	1	....
Prince Edward Island	2	6	9	33	5	11	41	4	11	107	2	231		157	12	1	....
Quebec	3	1	11	20	11	17	43	6	23	87	15	237	4	190	21	4	....
Hudson Bay and Strait	....	....	....	....	....	....	....	10	....	....	....	10		....	....	....	....
Montreal	....	....	....	7	7	7	19	5	26	159	7	237	....	158	....	....	....
Prescott	....		3	14	5	6	18	20	5	9	2	82	....	44	10	....	....
Parry Sound	....	5	10	23	14	11	53	33	32	62	21	264	2	148	25	....	....
Kenora	....	....	....	....	....	....	3	....	2	2	2	9	....	6	....	....	....
Manitoba	....	....	....	2	3	....	4	....	1	5	1	16	....	10		....	....
Victoria	3	1	3	7	8	2	12	53	10	4	18	121	1	66	19	....	....
Prince Rupert	1	....	3	3	1	.	3	29	2	3	....	45	....	14	6	....	....
Total	12	20	50	165	90	100	290	165	133	494	79	1,598	9	1,130	134	7	1

—	Fog whistles	Sirens	Fog bells	Hand fog horns	Hand fog bells	Total fog signals	Fog signal stations only	Gas buoys	Gas and whistling buoys	Gas and bell buoys	Whistling buoys	Bell buoys	Submarine bell buoys	Total gas and signal buoys	Lightship submarine bells	Total submarine bells	Lighted spar buoys, floats, and dolphins	Unlighted buoys.	Stakes, bushes and baliseas	Unlighted tripods, floats, dolphins, spindles & beacons
New Brunswick	1	....	10	22	....	59	7	3	13	3	8	27	....	54	1	1	.....	573	492	63
Nova Scotia	1	....	2	44	....	65	2	6	20	10	16	44	3	99	1	4	.....	1,000	12	13
Prince Edward Island	....	1	....	9	....	23	....	4	4	4	4	12	....	28	....	..	....	891	1,563	6
Quebec	4	....	....	23	4	56	1	61	....	8	....	1	1	71	3	4	1	280	140	41
Hudson Bay and Strait		....	.	..	....	....	....	..	....	....	....	....	....	....	....	....	....	....	..	....
Montreal	.	.	.		....	.	....	100	....	....	....	.	..	100	....	.	3	557	170	254
Prescott	.	..	3	5	....	18	..	37	....	1	....	1	....	39	..	..	1	534	.	5
Parry Sound	2	..	4	31	..	62	.	35	4	11	....	2	....	52	1	1	28	552	39	56
Kenora	..	.	.	..	....	....	.	.	.		....		.		....			392	.	.... ..
Manitoba	.	.	.	4	.	4					....							35	....	.... ..
Victoria	.	.	11	5	.	35	1	1	4	3	2	3	..	13	1	1	16	172	..	85
Prince Rupert	....	.	3	5	.	14	2	2	7	2	.		..	11	.	.	.	32	.	25
	8	1	33	148	4	336	13	249	52	42	30	90	4	467	7	11	49	5,018	2,416	548

INCLOSURE No. 2.—Statement, by localities, giving the number of unlighted buoys, stakes, bushes, balises, tripods, floats, dolphins, spindles and beacons maintained throughout the Dominion during the fiscal year ended March 31, 1921.

NEW BRUNSWICK DISTRICT

Locality and Number of Stakes, Bushes, etc.	No. of buoys
Advocate Harbour, N.S.	9
Alma, Little Salmon river, N.B.	3
Amherst basin, approaches to, N.S.	4
Apple river, N.S.	8
Argyle river and sound, N.S.	10
Avon river, N.S.	4
Bear river, N.S.	7
Beaver Harbour, N.B.	4
Big Duck island, Grand Manan	1
Blacks Harbour, N.B.	3
Bliss island, N.B.	1
Brier island, N.S.	1
Buck rock, Grand Manan	1
Calf island bay, N.S.	5
Campobello, N.B.	10
Chambers rock, N.B.	1
Chamcook harbour entrance, N.B.	1
Chance Harbour, N.B.	2
Chebogue, N.S.	1
Clark Harbour, N.S.	18
Cockerwitt pass and Woods Harbour, N.S., 1 spindle	18
Cumberland basin, N.S.	2
Deadman's head, L'Etang harbour, N.B.	1
Deer island, N.B., 12 spindles in vicinity of island	
Digby and Annapolis, N.S.	17
Digdequash, N.B.	6
Dipper Harbour, N.B.	5
Dochet island, St. Croix river	1
Freeport, N.S., 1 beacon	3
Goose bay, N.S., 35 stakes	8
Grand lake, N.B., bushes	32
Grand Manan, bay of Fundy, 2 spindles, 1 beacon	17
Grand passage, N.S., 2 spindles	5
Grassy island, St. John river, 18 stakes	7
Gull ledge, N.S.	1
Hatfield point, St. John river, 60 bushed stakes	1
Indian point bar channel, Grand lake, 10 bushed stakes	3
Johns ledge, N.S.	1
L'Etang, N.B., 1 spindle	
Letite, 1 spindle	
Letite, L'Etang and Bliss Harbour, N.B.	14
Little Wood island	1
Lorneville, N.B., 1 spindle	1
Magaguadavic, N.B.	13
Man O'War rock, L'Etang harbour, N.B.	2
Maquapit and French lakes, N.B., 57 stakes	13
Mink island, L'Etang harbour, N.B.	1
Musquash, N.B.	7
Old Man rock, N.S.	1
Old Woman rock, N.S.	1
Owls head, N.S.	1
Ox head ledges, N.B.	3
Parrsboro, N.S.	6
Pea point, L'Etang harbour, N.B.	1
Pease island, N.S.	1
Petitcodiac river	12
Puhnico, N.S.	21
Quaco, N.B.	1
Roaring Bull rock, N.S.	1
Robinsons ball station, Wood Harbour, N.S.	2
St. Andrews, N.B., 3 stakes	17
St. Croix, N.B.	8
St. John harbour, N.B.	3
St. John river, N.B., 150 stakes and bushes	87
Salmon river, N.B., bushing	15
Schooner rock, N.S.	1
Scotchtown, N.B.	6
Shag Harbour, N.S.	17
Shampiers wharf, N.B., 15 stakes	2
Shulee, N.S.	8
Stay point, Lepreau river	1
Tusket river, N.S.	9
Tusket Wedge, N.S., 3 spindles	17
Tynemouth creek, N.B.	4
Walton harbour, N.S.	1
Washadamoak lake, N.B., 144 bushes	2
West isles, N.B., 4 spindles	23
Weymouth, N.S.	20
Yarmouth, N.S., 34 dolphins	7

NOVA SCOTIA DISTRICT

Arichat, West Arichat and Janvrin, C.B.	19
Barrington, N.S., 11 dolphins	44
Beaver Harbour, N.S.	8
Beaver island, Nova Scotia, south-east coast	1
Beaver narrows, C.B.	2
Big Lorraine (Lorembec harbour), C.B.	3
Birchtown, N.S.	5
Black rock shoal, off Dover, N.S.	1
Blandford, N.S.	5
Boulaceet, Gillies point, C.B.	1
Canso and St. Andrews passage, N.S., 20 winter buoys	30
Canso harbour entrance, N.S.	3
Cape Negro and Northeast Harbour, N.S.	17
Chester and Gold river, N.S.	28
Chezzetcook and Petpeswick, N.S.	10
Christmas island and Barra strait, C.B.	11
Clyde river, N.S.	5
Coddle Harbour, N.S.	6
Cooks Cove (Toby Cove), N.S.	4
Country Harbour, N.S.	2
Crow Harbour, N.S.	3
Denny river, C.B.	3
Descousse and Lennox passage, C.B., 5 winter buoys	29

INCLOSURE No. 2.—Statement, by localities, of unlighted buoys, etc.—*Continued*

NOVA SCOTIA DISTRICT—*Concluded*

Locality and Number of Stakes, Bushes, etc.	No. of buoys
Devereux shoal, off Betty island, N.S.	1
Dover, N.S.	7
Dover harbour entrance, Gannet shoal, N.S.	1
East bay, Bras d'Or, C.B.	5
East Dover, N.S.	3
Eskasoni, C.B.	6
Fourchu harbour, C.B.	15
Gegoggin, N.S.	7
Glace bay, C.B.	6
Great Bras d'Or, C.B.	7
Guysborough, N.S.	5
Habitants bay, C.B.	4
Halifax, N.S.	19
Harrigan Cove, N.S.	3
Hautfond shoal, off cape Hogan, C.B.	1
Indian Harbour, N.S.	4
Ingonish, South Bay, C.B.	9
Isaac Harbour, N.S., 9 winter buoys	13
Jeddore, N.S., winter buoys	11
Johnson Harbour, C.B.	5
Ketch Harbour, N.S.	6
Kieley Cove, Blind bay, N.S.	4
Lahave, N.S.	9
Lahave river, N.S.	6
L'Ardoise, C.B.	5
Larry river, N.S., 7 stakes	3
Liscomb, N.S., winter spars	7
Little Bras d'Or harbour, C.B.	12
Little Dover, N.S.	9
Little Liscomb harbour, N.S.	4
Little Lorembec (Little Lorraine), C.B.	5
Little Narrows, C.B.	10
Liverpool, N.S.	10
Lockeport, N.S.	14
Louisburg, C.B., 6 winter buoys	8
Lunenburg, N.S.	8
Lunenburg, back cove, N.S.	9
Lunenburg, middle south, N.S., 6 winter buoys	16
Mahone bay, N.S., 1 beacon	12
Mainadieu, C.B.	5
Marble Mountain, C.B.	5
Marie Joseph and Ecum Secum, N.S., 11 winter buoys	16
Martins Brook, N.S.	6
McKinnon Harbour, C.B.	6
McNab Cove, C.B.	2
McVarish shoal and Campbell point, Bras d'Or, C.B.	4
Monsillier passage, C.B., 4 stakes	6
Musquodoboit, N.S.	15
New Harbour, N.S.	1
Orangedale, C.B.	3
Orpheus, off Green island, N.S.	1
Pennant Harbour, N.S.	11
Petitdegrat, C.B., 6 winter buoys	18
Petpeswick inlet, N.S.	1
Pollock shoal, off West Ironbound island, N.S.	1
Pope Harbour, N.S.	4
Port Bickerton, N.S., 3 winter buoys	5
Port Felix, N.S., 1 staff	11
Port Latour, N.S., 1 spindle	16
Port L'Hebert, N.S.	8
Port Medway, N.S.	6
Port Morien, C.B.	1
Port Mouton, N.S.	9
Pringle Harbour, C.B.	6
Prospect, Lower, N.S.	10
Prospect, Upper, N.S.	4
Ram rock, Jordan bay, N.S.	1
River Bourgeois, C.B.	6
Rose Bay, lower, N.S.	6
Roseway, N.S.	5
St. Ann, C.B.	12
St. Margaret bay, N.S.	6
St. Mary river, N.S., winter buoys	11
St. Mary river to Sherbrooke, N.S.	18
St. Peter bay, C.B., 4 winter buoys	16
St. Peter inlet, C.B.	12
Sambro, N.S.	29
Shad Bay, N.S.	4
Shag bay, N.S.	8
Sheet Harbour, N.S., 5 winter buoys	9
Shelburne, N.S., 3 winter spars	9
Ship Harbour, lower, N.S., 6 winter buoys	11
Slaughenwhite ledge, Hubbard Cove, N.S.	1
Sober island to Ecum Seeum, N.S.	22
Spry Bay, N.S.	2
Stoney island, Baddeck, C.B.	1
Strait of Canso, N.S.	1
Sydney harbour, C.B.	8
Tancook island, N.S.	3
Tangier, N.S.	7
Terence Bay, N.S.	3
Three Fathom Harbour, N.S.	5
Tor Bay, N.S.	21
Volgers Cove, N.S.	6
Walkerville, C.B. (Inhabitants Harbour)	3
Washaback river, C.B.	7
West bay, C.B.	5
West bay, C.B. (Smith island)	1
West Chezzetcook, N.S.	7
West Dublin, N.S.	12
Whitehaven, N.S., 5 winter buoys	8
Whycocomagh, C.B.	4

PRINCE EDWARD ISLAND DISTRICT

Aldouane, N.B., 42 bushes	5
Amherst harbour, Magdalen Islands	8
Baie du Vin, Huckleberry gully and channel, N.B., 44 stakes and bushes	18
Baie Verte and Port Elgin N.B., 30 stakes	6
Bartibog and Black rivers, N.B., 12 bushes	1
Bay Fortune, P.E.I.	3
Beach Point, P.E.I.	3
Belle River, P.E.I.	3
Black Brook, Miramichi river	3
Brae harbour, P.E.I.	5
Brudenell river, P.E.I.	5
Brule, N.S.	9
Buctouche, N.B., 34 stakes	22

INCLOSURE No. 2.—Statement, by localities, of unlighted buoys, etc.—*Continued*

PRINCE EDWARD ISLAND DISTRICT—*Concluded*

Locality and Number of Stakes, Bushes, etc.	No. of buoys
Buctouche river, N.B., 260 bushes	
Cape Jack ledges, N.S.	1
Cardigan, Lower, P.E.I., 2 winter buoys	7
Cardigan, Upper, P.E.I.	20
Caribou, N.S.	6
Cascumpeque, P.E.I., 14 stakes	15
Charlottetown, P.E.I.	8
Chéticamp, N.S.	14
Chimney Corner, C.B.	3
Church rock, Magdalen islands	1
Cocagne, N.B., 30 stakes	11
Covehead, P.E.I.	3
Crapaud, P.E.I.	11
East river, P.E.I., 15 stakes, 8 bushes	14
Egmont Bay, north, P.E.I., 19 stakes	9
Egmont Bay, south, P.E.I., 13 stakes	3
Entry island and Amherst island passage (Magdalen islands)	6
Georgetown and St. Marys bay, P.E.I., 3 winter spars	19
Goose and Palmer Harbours, P.E.I.	5
Grand Entry, Magdalen islands	17
Grand Etang, C.B.	4
Grandigue, N.B., 30 stakes, 20 bushes	2
Grand river (Boughton river), P.E.I., 80 bushed stakes, 1 beacon	12
Grand river, off Cape Sixteen, Malpeque bay, P.E.I.	8
Grand Tracadie, P.E.I.	4
Great Shemogue, N.B.	9
Grindstone reef, Magdalen islands	1
Harbour au Bouche, N.S., 6 stakes	4
House Harbour, Magdalen islands	11
Judique C.B.	1
Kouchibouguac and Black Lands gully, N.B., 150 bushes	15
Little channel, P.E.I.	3
Little Shemogue N.B., 2 poles	5
Mabou, C.B., stakes	20
Malpeque and Darnley, P.E.I., 2 stakes	23
Margaree Harbour, C.B., 7 stakes	3
Merigomish, N.S., stakes	6
Meule rock, Magdalen islands	2
Miminegash, P.E.I.	6
Miramichi bay and river, 12 bushes, 12 winter spars	40
Miramichi bay, Grandpon channel	20
Miramichi river, northwest branch	14
Miramichi river, southwest branch	9
Miscouche, P.E.I.	1
Montague river, P.E.I., 10 stakes	7
Murray Harbour and rivers, P.E.I., 25 stakes, 1 winter spar	32
Napan river, N.B., 24 bushes	3
Neguac, N.B.	19
New London—French river, P.E.I., 15 stakes	8
Northport, N.S.	12
North river, P.E.I., 14 stakes	3
Orwell and Vernon rivers, P.E.I., 36 bushes, 4 beacons	3
Pictou, N.S., number of bushes	11
Pinette, P.E.I., 24 bushes	5
Pokemouche, N.B., bushes	6
Port Hill, P.E.I.	12
Port Hood, C.B. 2 winter buoys	5
Pownall, P.E.I., 10 stakes	9
Pugwash, N.S.	8
Richibucto, N.B.	38
Richibucto river, Rexton and Browns yard, N.B.	30
Rifleman reef, P.E.I.	1
River John, N.S., stakes	3
River Phillip, N.S.	6
Rollo Bay, P.E.I.	3
Rustico, P.E.I., 30 bushed stakes	6
St. Charles river, N.B., 60 bushes	
St. Louis, N.B. 70 bushes	9
St. Louis river, N.B., 54 bushes and stakes	
St. Peter harbour, P.E.I., 6 stakes	5
Sandy Hook, Magdalen islands	1
Savage Harbour, P.E.I.	2
Shediac, N.B.	19
Shippigan, N.B., 27 pickets 30 bushes, 1 beacon	27
Souris, P.E.I.	4
Stanley and Bayfield channel, Southwest river, Clifton bridge, P.E.I., 14 stakes	9
Summerside, P.E.I., 10 stakes	10
Tabusintac, N.B.	20
Tatamagouche, N.S., 46 bushed stakes	18
Terras shoal, P.E.I.	1
Tidnish, N.S., stakes	5
Tracadie, north gulley, N.B., 100 bushes and stakes	12
Tracadie, south gully, N.B., 30 bushes	5
Wallace, N.S., 33 stakes	11
West Point, P.E.I.	4
West river, P.E.I., 65 stakes	8
Wood Island, P.E.I.	4

QUEBEC DISTRICT

Anse à Beaufils, P.Q.	1
Anse aux Gascons, P.Q.	1
Barachois de Malbaie, P.Q.	1
Bathurst, N.B.	31
Beaudry shoal, Gaspé basin, P.Q.	1
Beauport, P.Q.	3
Bonaventure, P.Q.	11
Cap Chat, P.Q.	1
Cape Cove, P.Q.	1
Cape d'Espoir, P.Q.	1
Caraquet, N.B.	16
Caraquet to Misonette, N.B.	3
Carleton point, P.Q.	1
Echourie rock (Serpent reef), P.Q.	1
Fox river, P.Q.	1
Grand Anse, N.B.	4
Gros-cap-aux-os, P.Q.	1
Lake St. John, Ashuapmouchouan river, 30 balises	7
Lake St. John, Mistassini river, 60 balises	12
Lake St. John, Peribonka river and Roberval, 35 balises	16
Little River East, P.Q.	1

INCLOSURE No. 2.—Statement, by localities, of unlighted buoys, etc.—*Continued*

QUEBEC DISTRICT—*Concluded*

Locality and Number of Stakes, Bushes, etc.	No. of buoys
Little River West, P.Q.	1
Little Shippigan (Miscou gully), N.B.	4
Maria, P.Q.	2
Matane, P.Q.	2
Miscou, N.B.	8
Moisie river, P.Q.	2
Natashkwan, P.Q.	4
New Richmond, P.Q.	3
North channel, Orleans island, P.Q.	13
Nouvelie roads, P.Q.	2
Paspebiac, P.Q.	1
Percé, P.Q.	2
Petit Rocher, N.B.	1
Point St.Peter, P.Q.	1
Port Daniel, P.Q.	1
Portneuf-en-Bas, P.Q.	9
Quebec harbour	2
Restigouche river and Chaleur bay	22
River St. Lawrence ship channel, 33 beacons, 8 spindles, 7 steel winter spar buoys	31
Ste. Anne river, P.Q.	1
St. Godfroy, P.Q.	1
St. Michel de Bellechasse, P.Q.	4
St. Simon bay, N.B., 15 stakes	6
St. Thomas de Montmagny, P.Q.	8
Saguenay river, vicinity of Chicoutimi, P.Q.	33
Saguenay river, Ha Ha bay	1

MONTREAL DISTRICT

Ottawa river district	85
Richelieu rapids, bushes	
Richelieu river	68
Rideau river, 101 floats, 25 tripods	
River St. Lawrence	319
Rivière des Prairies P.Q.	11
St. Francis river, P.Q., 80 balises, 12 day beacons	
St. Maurice river, Grandes Piles to Latuque, P.Q., 106 day beacons	74
Yamachiche river, P.Q., 30 balises, 4 day beacons	
Yamaska river, P.Q., 60 balises, 6 day beacons	

PRESCOTT DISTRICT

Bay of Quinté	16
Cataraqui	3
Kingston	9
Lake Ontario, Melville shoal	1
Lake Ontario, N.E. of Snake island	1
Lake Ontario, S.E. end of Snake island shoal	1
Lake Ontario, S.W. end Snake island shoal	1
Lake Ontario, off Long point, Wolfe island	1
Lake Ontario, E. of Presqu'lle light	1
Lake St. Francis	31
Murray canal and Presqu'lle bay	20
Napanee river	14
Picton harbour	6
River St. Lawrence, 5 beacons	82
Telegraph narrows	10
Trent canal (maintained for this Department by Department of Railways and Canals)	317
Trenton	15
Whitby	5

PARRY SOUND DISTRICT

Ann Long bank, Georgian bay	1
Bar point, Georgian bay	1
Bad Neighbour shoal, entrance to Georgian bay	1
Bernard rock, Georgian bay	1
Blind River, North channel, lake Huron	6
Burke shoal, lake Superior	1
Byng inlet channel, Georgian bay, 6 beacons	27
Cache Bay, lake Nipissing, 8 stakes	11
Campana shoal, Georgian bay	1
Campbell rock, Georgian bay	1
Cape Hurd, lake Huron	3
Clapperton channel, North channel, Huron, 1 beacon	8
Cloud Bay, lake Superior	2
Collingwood, Georgian bay	13
Dawson rock, Georgian bay	1
Detroit river	30
Fitzroy Harbour, Ont.	19
Fort William, lake Superior	15
Goderich, lake Huron	7
Jackson shoal, Georgian bay	2
Kennedy bank, Georgian bay	1
Key Harbour channel, Georgian bay, 6 beacons	24
Killarney harbour, Georgian bay	3
Lake Couchiching and narrows, 11 bushes	8
Lake Simcoe	5
Lionshead harbour, Georgian bay	1
Little Current, North channel, lake Huron	27
Mary Ward ledges, Georgian bay	4
Meaford harbour, Georgian bay	3
Michipicoten Island (Quebec harbour) lake Superior	6

INCLOSURE No. 2.—Statement, by localities, of unlighted buoys, etc.—*Concluded*

PARRY SOUND DISTRICT—*Concluded*

Locality and Number of Stakes, Bushes, etc.	No. of buoys
Midland and Victoria Harbours, Georgian bay	5
Morden rock, Georgian bay	1
Mutton island, lake Superior	1
Northeast shingle, Georgian bay	1
Ottawa river, above Pembroke, Ont.	30
Owen Sound channel, Georgian bay	4
Parry Sound ship channel, 2 beacons	20
Parry Sound to Waubaushene, Georgian bay, inner channel	116
Penetanguishene, Georgian bay	12
Pointe au Baril and Kennedy shoal, Georgian bay, 15 beacons	3
Port Arthur, lake Superior	21
Port McNicoll, Georgian bay	2
Port Rowan, lake Erie	10
River St. Clair, chenal Ecarte	1
River St. Clair, middle ground	1
River St. Mary and east end of lake Superior	19
River Thames, lake St. Clair	7
Rondeau, lake Erie	6
St. Joseph channel, lake Huron, 1 beacon, 5 winter buoys	25
Shebeshekong channel, Georgian bay, 22 day beacons	
Southampton, lake Huron	7
South Baymouth, lake Huron	4
Stokes bay, lake Huron	6
Sturgeon river, 20 stakes	5
Victoria island, lake Superior	3
Wabuno channel, Georgian bay, 3 beacons	5
Wingfield basin, Georgian bay	4

KENORA DISTRICT

Lake of the Woods	270
Rainy lake and Rainy river	58
Shoal lake	17
Wabigoon lake	27
Winnipeg river, White Dog to Kenora	20

MANITOBA DISTRICT

Black river, lake Winnipeg	6
Red river	17
Warrens landing, lake Winnipeg	12

VICTORIA DISTRICT

Active pass, 1 beacon	
Arrow lakes	22
Baynes sound and approaches, 1 pile dolphin	10
Broughton strait	1
Burrard inlet and Vancouver harbour, 1 beacon	6
Clayoquot sound, 3 beacons	13
Colburne passage, Colburne channel	2
Courtenay river, 12 pile dolphins	
Esquimalt harbour, 1 beacon	4
False narrows	2
Fraser river	38
Ganges harbour	2
Georgia strait, 2 beacons, 1 set range day marks	7
Haro strait, 1 beacon	2
Johnstone strait, 4 beacons	2
Juan de Fuca strait	1
Kokshittle arm, Kyuquot arm	1
Kootenay lake, northwest arm	7
Malaspina strait, 3 beacons	2
Mud bay, Serpentine and Nicomeck'l rivers, 3 beacons, 27 dolphins	
Nanaimo harbour and Departure bay, 1 beacon	13
Okessella channel, 3 beacons	
Pender canal	2
Pitt river	9
Prevost channel	1
Quatsino sound, 2 beacons	1
Saanich arm	1
Saanich inlet, 1 spindle, 1 beacon	2
Satellite channel, 2 beacons	1
Shushartie bay, 1 beacon	
Shute passage	1
Sidney channel, 1 beacon	6
Stuart channel and approaches, 4 beacons, 1 pile dolphin	6
Sutil channel, 1 pile dolphin	2
Trincomali channel and Porlier pass, 5 beacons	3
Ucluelet harbour, 1 beacon	1
Victoria harbour, 2 beacons	1

PRESCOTT DISTRICT

Chatham sound, 1 beacon	6
Fitzhugh sound, 1 beacon	1
Grenville channel, 3 beacons	1
Lama passage, 3 beacons	
Metlakatla	9
Observatory inlet, 3 beacons	3
Porpoise harbour	6
Port Simpson	1
Prince Rupert harbour, 1 beacon	2
Queen Charlotte islands, 4 beacons	1
Seaforth channel, 3 beacons	
Skeena river and passages, 5 beacons	2
Tolmie channel, 1 beacon	

RIVER ST. LAWRENCE SHIP CHANNEL

REPORT OF V. F. W. FORNERET, B.A.SC., SUPERINTENDING ENGINEER

GENERAL INFORMATION

The Ship Channel, for purposes of organization and details, has been divided into five divisions:—

	Statute Miles
Division 1—Montreal to Sorel	45
Division 2—Sorel to Batiscan (not including lake St. Peter)	36
Division 3—Lake St. Peter	20
Division 4—Batiscan to Quebec	59
Division 5—Quebec to the Traverse (South channel)	60
Total	220

The South channel below Quebec having been completed to 30 feet at extreme low tide in 1912, the dredging to 35 feet at E.L. tide of the North channel, was commenced immediately and although good progress has been made, there still remains a great deal of work to be done before it is completed.

The Ship channel below Quebec divides into the North and South channels about opposite St. Jean (island of Orleans) and joins again below Goose cape. The distance from Quebec to Goose cape via North channel is 66 statute miles.

From Quebec to Three Rivers, 82 miles, there is practically no tide.

From Three Rivers to Batiscan, 20 miles, the tide can always be felt, but owing to uncertainty of time and height, it cannot be depended upon for navigation.

From Batiscan to Portneuf, 22 miles, during six hours out of twelve, half tide giving 1½ to 4 feet, may be taken advantage of by passing during those six hours.

From Portneuf to Quebec, 36 miles, there is a tide from 9 to 15 feet, giving tidal navigation for about nine hours out of twelve.

From Quebec to Crane island, 40 miles, the tide is 13 feet at Neaps and 18 feet at Springs, and as the channel is dredged to 30 feet at extreme low water, there is navigation, in this division, of from 43 to 48 feet at high tide or 36½ to 39 feet at half tide.

The river between Montreal and Quebec is particularly adapted for improvement. The water is almost free from matter in suspension which may deposit itself in excavated channels and fill them up. The river bottom is almost everywhere of such a character that when a cut is once made it remains unchanged. There are many difficulties such as hard material, strong currents, bad weather; but no dredging in the world can show better results, or more permanence.

DREDGING OPERATIONS, SEASON 1920

The department having again decided that on account of the existing conditions, it was advisable to carry on the dredging operations on the River St. Lawrence ship channel for the season of 1920, on the same curtailed scale as during the previous year, which consisted of 4 dredges, 1 rock cutter and attending plant, and working during the day time only. With such a comparatively small plant, progress could not be otherwise than slow and numerous contemplated improvements had again to be deferred until conditions improved.

Division 1—Montreal to Sorel

Longueuil Curve (Montreal Harbour.)—During the season of 1920 some work was done on this curve by two dredges for a short period, widening and deepening to 35 feet at E.L.W. of 1897. It is the intention to widen this curve on the north side

(Forsyth shoal) in order to obtain a width of 850 feet. When this work is completed, it will be a great improvement to this part of the channel in the harbour. The dredged material is very hard, consisting of hard pan, some shale rock with stones and boulders, the latter having to be lifted by means of a stone lifter.

The total number of cubic yards removed amounted to 44,400, at a total cost of $72,597.66 or $1.63 50/100 cents per cubic yard.

Division II—Sorel to Batiscan

Ste. Anne Curve.—One dredge worked here for part of the season deepening the channel to 35 feet at E.L.W. of 1897, the material being clay and not difficult to dredge.

The total number of cubic yards removed amounted to 37,750, at a total cost of $28,044.70, or .74 29/100 cents per cubic yard.

Champlain Channel.—This channel was carefully swept by the sweeping steamer early in the season to 30 feet at E.L.W. of 1897, and several sand bars were found to have formed since the previous season. A dredge was taken down and laid out to clean them up and was occupied on this work for several weeks. The obstructions were removed before the extreme low water period.

This is the only point in the ship channel between Montreal and Quebec where filling in of any importance occurs. The amount of material removed was 66,000 cubic yards at a total cost of $46,474.08 or .70 43/100 cents per cubic yard.

Division III—Lake St. Peter

No work was done in this division during the season of 1920.

Division IV—(Batiscan to Quebec)

Cap a la Roche Curve.—Two powerful dredges were placed to work at Cap a la Roche during the greater part of the season, widening and deepening to 30 feet at E.L.W. of 1897. The widening on the north side of the channel is now completed, and dredged to 30 feet at E.L.W. There still remains a narrow strip at the lower end of the curve to be widened on the south side.

The work of deepening the south half of the channel to 30 feet at E.L.W. is well advanced. Owing to the uncompleted south half, the available depth in the channel is still 27½ feet at ordinary low water.

The total number of cubic yards removed during the season of 1920 amounted to 197,345, the material being hard shale rock, at a total cost of $156,971.58, or .79 54/100 cents per cubic yard.

A considerable area has been broken and prepared for the dredges to remove next season, by the rock breaker.

Division V—Quebec to Goose Cape (North Channel)

The powerful sea-going hydraulic dredge *No. 8* was laid out to work at the commencement of the season in the North channel, below Quebec, deepening to 35 feet at E.L.W.; the material consisting of sand, clay and many stones.

At the latter end of the month of July, dredge *No. 8* went over to work in Beaujeu channel (South channel) for a few days to clean up some sand bars which had been found on examination with the sweeping steamer. When this work was finished, the dredge returned to the North channel and resumed operations where she had left off, and continued there for the balance of the season.

Dredge *No. 8* removed 370,400 cubic yards during the whole season, at a total cost of $142,046.83, or .38 34/100 cents per cubic yard.

The total number of cubic yards removed by the dredges during the season of 1920, amounted to 715,895 at a total cost of $446,134.85, or .62 81/100 cents per cubic yard.

Thirty-Foot Project (End of Season, 1920)

Total length of dredging done..	(miles)	66.55
Total length of dredging yet to be done..	"	1.47
Total number of cubic yards dredged..		53,366,677
Total number of cubic yards yet to be done..		1,934,655

Thirty-five Foot Project (End of Season, 1920)

Total length of dredging done..	(miles)	41.20
Total length of dredging yet to be done..	"	49.18
Total number of cubic yards dredged..		38,355,651
Total number of cubic yards yet to be done..		28,718,290

The total cost from 1851 to the end of the fiscal year ending March 31, 1921, of the ship channel from Montreal to Father Point, including plant, shops, surveys, etc., is as follows:—

Dredging..	$15,386,308 95
Plants, shops, surveys, etc..	8,471,590 63
Total..	$23,857,899 58

The total material dredged from 1851 to the end of the season of 1920 amounted to 118,169,034 cubic yards, the material varying from very hard shale rock to soft blue clay.

Depth of Water in the Ship Channel, Season 1920

The depth of water in the ship channel was very low during most of the season of navigation, the Sorel gauge read as low as 30 feet 2 inches (datum of 1897) but this was only for a short period.

This was mainly due to lack of precipitation and very low level of the water in the Upper lakes, especially lake Ontario, and also the Ottawa river.

In 1913, the Sorel gauge read as low as 30 feet 1 inch, and ever since that date the water has kept higher. Thirty feet at extreme low water of 1897, is the datum adopted for the 30 feet and 35 feet projects.

TIDAL SEMAPHORES

The tidal semaphore at Deschaillons, P.Q., which shows the available depth of water in the dredged channel at Cap a la Roche, commenced operations on April 29, 1920. The tidal semaphore at Pointe Citrouille lighthouse, which also shows the depth available at Cap a la Roche, commenced on the same date.

The two stations are connected by private telephone. This arrangement has been of great service to pilots of deep-draught vessels outward bound. If the semaphore at Pointe Citrouille shows sufficient depth in the Cap a la Roche channel, the vessel continues on but if not, it can anchor in the very fine anchorage ground provided for that purpose, just below Pointe Citrouille and wait for the tide to rise sufficiently to allow the vessel to proceed with safety.

The tidal semaphore at St. Nicholas, P.Q., which shows the available depth of water in the undredged St. Augustin channel, was put in operation on April 30, 1920.

SWEEPING OF THE SHIP CHANNEL

The sweeping of the channel between Montreal and Quebec was done as usual, and no obstruction of a serious nature was found. Considerable sweeping was also done in the North and South channels below Quebec, by the sweeping steamer *Detector*.

A few sand bars were found to have formed in the Champlain channel, but these were removed by dredging before the low water season. Some sand bars were also found in the Beaujeu channel (South channel) by the sweeping steamer but were removed by a dredge.

ACCIDENTS

The season of 1920 was comparatively free of serious accidents or marine casualties notwithstanding the unusually large number of vessels of large tonnage using the ship channel to Montreal, and none could be attributed to any fault of the channel.

NEW AIDS SEASON 1920

Two new lighthouses were built at Ste. Anne de la Pérade on the same axis as the Cap Charles Channel Range of lights at Ste. Emélie which marks the centre line of Cap Charles channel. This gives a pair of lights at both ends which will be a great improvement and make navigation safer for this part of the channel, especially late in the autumn, when snow flurries very often obscure the Ste Emélie lights. The Gentilly Low light which was carried away by the ice last spring, was rebuilt. Some of the channel buoys were rearranged and a few additional ones placed.

The Black spar buoy M. 79 Ile au Boeuf, was replaced by a gas buoy.

Work was commenced in establishing a complete system of permanent beacons for placing and checking positions of channel buoys, and considerable progress was made on this work by the ship channel staff.

It is the intention to put up these beacons wherever it is possible. This new system will be found most useful in expediting the placing of the buoys in the spring. When it is completed, any good captain who is familiar with the river, will be able to place and check positions of the buoys quickly and correctly.

ACCIDENTS IN THE ST. LAWRENCE RIVER, SEASON OF 1920

Between Montreal and Quebec

June 13.—Canada Steamship Lines steamer *Quebec* went aground close to the North transmission tower just above Three Rivers. Was refloated; apparently not damaged.

June 23.—Canadian Government steamer *Canadian Miner* stranded off Batiscan. Was refloated; slight damage.

July 16.—Tug *Margaret Hackett* with barge *Gladys H.*, westbound, collided with barge *Brookdale* in tow of steam barge *Maplehurst*, bound east. The tug sank south of English bank, lake St. Peter. Was raised.

September 12.—C.P.O.S. *Metagama*, on her way up to Montreal from Quebec, went ashore near foot of Ile Bouchard, north of the channel. Was refloated; no damage.

September 22.—Steam barge *Henry B. Hall*, of the George Hall Coal Company Limited, collided with the Canada Steamship Lines steamer *Montreal* when off Sorel, P.Q. Slight damage.

October 21.—Steamer *Georgie*, operated by the Canada Steamship Lines, inward bound for Montreal, went ashore just above Quebec on Fly bank, during dense fog. Was refloated; bottom damaged.

November 27.—Canadian Government steamer *Canadian Seigneur*, outward bound from Montreal, went aground on north bank at Curve No. 1, lake St. Peter. Was refloated; no damage.

Quebec to Father Point

May 13.—Steamer *Aticokan*, with barge *Thunder Bay* in tow, went aground on Madame island. Was refloated.

June 7.—Steam barge *Cuba*, in tow of tug *J. H. Hackett*, loaded with pulpwood, broke away from tug and foundered off Berthier-en-bas. Total loss.

July 19.—Steam barge *John F. Morrow*, loaded with pulpwood from Little Saguenay for the Upper lakes, touched on Lark reef at entrance to the Saguenay river. Was refloated; bottom damaged.

August 14.—Steamer *Tunisian*, inward bound, collided with *Manchester Division*, also inward bound, while anchored in vicinity of Morin shoal, off Murray bay. Both vessels suffered damage.

August 28.—Steamer *J. S. McKee*, from Sydney, N.S., for Quebec, went ashore on Prince's shoal, abreast of Saguenay river. Operated by Canadian Merchant Marine. Was refloated; bottom damaged.

October 21.—Steamer *Chama*, outward bound from Montreal, went ashore on Bellechasse island. Was refloated; bottom badly damaged.

None of the above accidents can be attributed to any fault of the ship channel.

"MARINE SIGNAL SERVICE"

Signal stations have been established for the purpose of maintaining communication between ship and shore by means of flag signals.

This system of stations extends from St. John, N.B., Halifax, N.S., Cape Race, Nfld., and Belle Isle up the gulf and river St. Lawrence and through the Great Lakes to Sault Ste. Marie, Ont.

Following is a Complete List of Stations

EAST OF QUEBEC

Name of Station	Location	Nautical miles from Quebec	Means of Communicatioa
R.—Quebec	Custom House	0	Telephone
X.—St. Jean d'Orleans	Shore end of wharf	14	"
Crane Island	Lighthouse	32	"
L'Islet	100 yards east of church	40	Telegraph
Cape Salmon	Lighthouse	81	Telephone and telegraph
Riviere du Loup	Shore end of wharf	92	Telegraph
Father Point	Shore end of wharf	157	"
Little Metis	Lighthouse	175	"
Matane	"	200	"
Pointe des Monts	"	219	"
Cap Chat	"	234	"
Riviere a la Marte	"	260	"
Cape Magdalen	"	294	"
Fame Point	"	325	"
Cap des Rosiers	"	349	"
Cap d'Espoir	"	377	"
Point Maquereau	"	400	"
West Point, Anticosti	"	332	"
South West Point, Anticosti	"	360	"
South Point	"	415	"
Heath Point	"	438	"
Point Escuminac, N.B	"	462	"
Amherst Island, Magdalen Islands	"	481	"
St. Paul's Island, C.B	Main station	540	Telephone
Money Point, C.B., N.S	Lighthouse	537	"
Flat Point, N.S	"	575	Telegraph
Cape Ray, Nfld	"	553	"
Cape Race, Nfld	"	826	"
Point Amour, Labrador	"	673	Wireless telegraph
Belle-Isle	"	734	"
Camperdown, N.S	Near wireless station		Telephone
Halifax, N.S	The Citadel		"
Brier Island, N.S	Near lighthouse		"
Point Lepreaux, N.B	Lighthouse		"
Partridge Island, N.B	"		"
St. John, N.B	Custom House		"
Point Tupper, C.B			Telegraph
Scatari Island, C.B			"

Following is a Complete List of Stations—Concluded

WEST OF QUEBEC

Name of Station	Location	Nautical Miles from Quebec	Means of Communication
Bridge Station	Half-mile above Quebec Bridge on south shore	6	Telephone
St. Nicholas	At tidal semaphore	12	"
Portneuf	In front lighthouse	31	"
Grondines	In old windmill tower	41	"
St. Jean Deschaillons	At tidal semaphore	45	"
Pointe Citrouille	In lighthouse	55	"
Three Rivers	Upper end of Bureau wharf	68	"
Sorel	Lower end of Government wharf	100	"
Bellmouth	About 500 ft. east Contrecoeur course, low light	110	"
Cap St. Michel	Abreast east end Ile des Lauriers	125	"
Longue Pointe	Pointe between wharves	134	"
R.—Montreal	92 Notre Dame St. East (La Sauvegarde Bldg.)	139	"

WEST OF MONTREAL

R.—Lachine Canal	Lock No. 2	0	Telephone
R.—Lachine Canal	Lachine, in office Collector of Revenue	8	"
R.—Soulanges Canal	Cascades Point	21	"
R.—Soulanges Canal	Coteau Landing	33	"
R.—Cornwall Canal	Cornwall	62	"
R.—Galops Canal	Lift lock	99	Telegraph.
R.—Welland Canal	Port Dalhousie	298	"
R.—Welland Canal	Port Colborne	321	"
R.—Soo Canal	Sault Ste. Marie	820	"

Stations marked thus "R" are reporting stations only and are not equipped for signalling purposes. Stations marked "X" are closed temporarily.

BRIEF SUMMARY OF WORK PERFORMED

1. Stations report movements of vessels to Montreal, Quebec, Sydney, Halifax or St. John.

2. Stations report weather conditions daily to Montreal, Quebec, Sydney, Halifax or St. John.

3. Montreal, Quebec and St. John publish daily bulletins giving weather and ice conditions and movements of vessels.

4. Montreal and Quebec publish daily bulletins showing the depth of water at various points in the river St. Lawrence ship channel.

5. The Signal Service offices at Montreal, Quebec and St. John are open day and night for the purpose of furnishing the public with information of shipping matters.

6. The telegraph system of the Department of Public Works on the north shore of the gulf of St. Lawrence report the movements of vessels engaged in the coasting trade in the Signal Service at Quebec.

7. The collectors of customs at all the seaports in the river and gulf of St. Lawrence, on the Atlantic coast and in the bay of Fundy report the arrival and departure of vessels engaged in the overseas trade.

8. Lloyd's agents at Quebec are furnished daily with full information of the movements of vessels engaged in the overseas trade to and from ports in the province of Quebec.

9. Lloyd's agents at St. John, N.B., are furnished daily with full information of the movements of vessels engaged in the overseas trade to and from ports in the Maritime Provinces.

IMPROVEMENTS CARRIED OUT AND CONTEMPLATED

The Signal Service at Halifax, St. John, North Sydney and Quebec, in the river and gulf of St. Lawrence and on the Great Lakes, and the telephonic and reporting service between Quebec and Montreal were combined on the 1st April, 1914, under the heading of Signal Service with the headquarters at Quebec. This consolidation has greatly facilitated the work and has led to many improvements.

An arrangement was made with the Department of Railways and Canals whereby their officials at the Lachine, Soulanges, Cornwall, Galops, Welland and Sault Ste. Marie canals report several times daily to the Signal Service at Montreal, giving movements of vessels bound to Montreal and points east of that port. This service has proved itself to be very useful, especially to the shipping interests of the port of Montreal, and will be extended from time to time as conditions may warrant.

The service at Halifax and St. John has been considerably improved during the past year, and further minor changes are in contemplation.

The signal mast at Sorel, P.Q., was replaced by a new one and the exterior of the building painted.

The Three Rivers Signal Station was painted on the outside and some minor repairs made to building.

It is proposed to overhaul and paint several of the stations during the season of 1921.

ICE-BREAKING, 1920-21

Report of N. B. McLean, Engineer (River St. Lawrence Ship Channel)

The weather conditions during the winter season of 1920-21 were unusually mild. The river remained open from Quebec to a point three miles above the middle of No. 3 Curve in lake St. Peter, and from this point to Montreal was covered with ice.

On November 26, the *Lady Grey* went to Three Rivers to keep Port St. Francis open and to aid vessels coming down. No trouble was experienced as there was little or no ice, the last vessel passing outwards at Three Rivers on December 12. The *Lady Grey* proceeded to Quebec the same day and took up her station there for the winter's operations.

During the months of January and February two ice-jams occurred at Quebec bridge, both of which were successfully broken up by the *Lady Grey* and *Montcalm* working together. Had these jams not been cut out, the river instead of remaining open more than half way to Montreal would have been covered with ice from the bridge upwards, and as a result of this condition there would have been very grave danger of floods, with the river open for navigation at a much later date.

On two other occasions large battures, that came from the vicinity of Les Ecureuils and Cap Sante, were broken up in order to prevent them blocking at the bridge. Apart from this and the two ice jams already mentioned the ice-breakers had very little to do.

On March 22 the *Lady Grey* left Quebec and proceeded up to the lower edge of the ice in lake St. Peter. It was found that the ice was so light and soft that it was decided to do no work but to let nature take its course.

The next day, March 23, the lake ice began to move and by March 27 the river was clear from Montreal to Quebec.

Records which extend back for 80 years, to 1842, show that March 27 of this year is the earliest date of opening of the river during all that period. April 3, 1910, is the next earliest date in which the river was clear of ice; just one week later than this year.

The *Lady Grey* left Three Rivers for Montreal March 28, but was delayed by a heavy snowstorm, arriving at Montreal only on March 29, when the ice-breaking operations were brought to a close for the season.

It has been customary for some years, after the ice-breaking had been finished below Montreal, for the *Lady Grey* to proceed to the foot of the Soulanges canal to break up the mass of frazil ice which forms there, but this year by the time the canals were opened this accumulation of frazil had disappeared and her services were not required.

AVERAGE DEPTH for each Month in the 27½-foot Channel (27½ feet at Ordinary Low Water) from Sorel Gauge during each year May to November

Year	May	June	July	Aug.	Sept.	Oct.	Nov.	Highest	Lowest
	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
1892	31 0	31 9	31 6	30 6	28 9	28 3	28 3	33 6	27 3
1893	36 0	34 3	30 9	29 9	29 6	28 6	28 0	37 6	27 6
1894	34 6	31 9	31 0	29 2	28 3	28 9	29 0	36 0	27 7
1895	33 3	31 3	28 3	28 3	27 6	26 9	26 9	34 6	25 10
1896	33 6	30 6	28 9	28 0	27 6	27 9	29 0	37 0	27 4
1897	35 6	32 6	30 3	29 3	28 0	27 0	27 6	37 0	26 5
1898	31 6	30 9	29 8	28 2	28 2	28 3	28 6	32 1	26 9
1899	36 2	31 9	30 3	28 6	27 6	28 0	27 9	37 9	26 9
1900	33 6	30 9	30 6	29 6	28 1	28 9	29 2	35 9	27 4
1901	34 3	31 10	29 2	28 3	27 7	27 4	27 3	36 3	26 6
1902	32 2	32 2	32 2	29 4	28 1	28 1	29 0	34 1	27 6
1903	33 0	30 11	30 5	29 5	28 4	29 0	27 11	32 8	26 11
1904	36 3	34 5	30 9	29 5	29 5	30 4	29 3	37 4	28 1
1905	31 10	30 8	29 7	29 0	28 0	28 5	28 1	33 6	27 1
1906	32 4	31 5	29 3	27 11	27 3	27 4	27 6	33 3	26 9

AVERAGE DEPTH for each Month in the 30-foot Channel (30 feet at Extreme Low Water of 1897)

1907	37 1	35 9	34 3	32 10	32 4	32 9	33 7	38 3	31 10
1908	41 5	37 10	33 10	32 10	32 0	31 0	30 6	42 4	30 0
1909	40 6	37 6	33 10	33 2	32 7	32 4	31 6	42 7	30 11
1910	35 7	34 5	32 3	31 7	31 6	31 6	31 7	37 1	30 7
1911	36 6	34 6	32 1	31 3	30 9	30 2	30 3	38 1	29 4
1912	37 9	37 6	33 6	32 8	32 6	32 6	34 9	40 11	31 3
1913	37 0	34 4	32 8	31 10	31 6	32 1	32 7	38 6	31 1
1914	35 2	33 0	32 4	31 4	31 3	30 11	31 0	36 10	30 3
1915	34 7	32 6	31 6	31 4	31 1	30 11	30 8	37 4	30 1
1916	38 9	37 2	34 0	32 5	31 7	31 9	31 10	40 0	30 9
1917	36 8	36 6	34 10	33 6	32 3	32 6	33 0	38 2	31 3
1918	36 1	34 1	33 10	32 0	32 3	33 7	34 11	38 1	31 3
1919	39 7	36 7	33 5	32 4	32 3	32 8	33 5	41 1	31 3
1920	35 9	33 0	32 4	31 8	31 5	31 4	31 6	37 5	30 2

COST OF SHIP CHANNEL TO DATE

TABLE showing the Total Cost of the Dredging and Plant and the Quantities Dredged to March 31, 1921

——	Cost of Dredging	Expenditure for plant, shops, surveys, etc.	Quantities dredged
MONTREAL HARBOUR COMMISSIONERS, 1851 TO 1888	$ cts.	$ cts.	Cu. yds.
Dredging Montreal to Cap à la Roche to 27½ feet at O.L.W. and from Cap à la Roche to Quebec to 27½ feet at half tide	3,402,494 35	534,809 65	19,865,693
DEPARTMENT OF PUBLIC WORKS			
Dredging consisting of widening and cleaning up of channel, deepening Cap à la Roche to Cap Charles to 27½ feet at O.L.W. and dredging at Grondines, Lotbiniere and Ste. Croix, 1889, to June 30, 1899	829,583 08	486,971 79	3,558,733
PROJECT OF 1899			
Dredging Channel between Montreal and Quebec to 30 feet at lowest water of 1897, also widening to a minimum width of 450 feet and straightening—			
Fiscal year 1899–1900	100,191 01	265,270 78	1,107,894
" 1900–1901	136,680 83	287,040 04	2,479,385
" 1901–1902	185,429 80	479,731 47	3,098,350
" 1902–1903	255,776 55	277,703 50	6,544,605
" 1903–1904	276,958 59	308,765 44	4,619 260
DEPARTMENT OF MARINE AND FISHERIES			
This includes the work below Quebec			
Fiscal year 1904–05	311,087 93	277,225 69	2,716,220
" 1905–06	431,768 30	317,327 37	4,047,530
" 1906–07 (July 1906– to March 31, 1907)	302,677 37	275,003 61	3,001,010
" 1907–08	478,209 66	417,390 22	4,831,875
" 1908–09	497,686 03	340,861 86	5,896,737
" 1909–10	572,950 71	321,375 80	6,354,285
" 1910–11	576,838 02	488,248 88	5,600,050
" 1911–12	588,697 60	499,799 58	4,509,904
" 1912–13	663,229 74	430,107 86	6,929,344
" 1913–14	895,235 59	426,018 12	6,140,867
" 1914–15	1,036,846 65	327,975 71	6,225,143
" 1915–16	976,622 03	771,760 03	8,462,957
" 1916–17	1,030,550 60	437,469 62	7,800,555
" 1917–18	618,399 69	136,765 97	2,517,376
" 1918–19	350,152 92	79,797 45	628,060
" 1919–20	422,107 05	132,747 20	517,305
" 1920–21	446,134 85	151,422 99	715,895
	15,386,308 95	8,471,590 63	118,169,033

PROGRESS of Dredging Operations at date of Writing, the close of the Season 1920, 30-Foot Project

Locality	Distance, English miles	Total length, requiring dredging	Length dredged in 1920	Total length of 30-foot channel dredged	Length yet to be dredged
	Miles	Miles	Miles	Miles	Miles
Division No. 1— Montreal to Sorel	45	22·90	.....	22·90	All completed
Division No. 2— Sorel to Batiscan	36	12·45	.....	12·45	All completed
Division No. 3— Lake St. Peter	20	18·00	.....	* 0·50 †17·50	
Division No. 4— Batiscan to Quebec	59	10·00	0·11	8·53	1·47
Division No. 5— Quebec to The Traverse	60	4·65	.....	4·65	
Totals	220	68·00	0·11	66·53	1·47

*Not widened. †Widened.

PROGRESS of the Dredging Operations at the date of Writing, the close of the Season of 1920, 30-Foot Project

Locality	Length of Dredging		Cubic Yards yet required to be done
	Required	Done	
	Miles	Miles	
Division No. 1—			
Longueuil Shoal	....	1·10	
Longue Pte. to Pte. aux Trembles (E.H.)		5·05	
Ile Ste. Therese		0·40	
Varennes to Cap St. Michel		3·00	
Cap St. Michel to Vercheres	...	4·50	
Vercheres Traverse		1·10	
Vercheres to Contrecoeur		1·70	
Contrecoeur Channel		6·05	
Total		22·90	
Division No. 2—			
Sorel to Ile de Grace	...	4·40	
Stone Island		1·10	
Ile aux Raisins		0·25	
Lake St. Peter (See Div. 3)			
Port St. Francis		0·50	
Three Rivers		0·50	
Cap Madeleine to Becancour		1·55	
Becancour to Champlain		2·25	
Champlain to Pte. Citrouille		1·30	
Batture Perron		0·60	
Total		12·45	
Division No. 3—			
Lake St. Peter	... .	*0·50 †17·50	200,000
Total		18·00	200,000
Division No. 4—			
Batiscan to Cap Levrard		3·00	
Cap a la Roche Channel	0·32	1·73	384,655
Pouillier Rayer		1·20	
Cap Charles		0·90	
Grondines		0·80	
Lotbiniere		0·40	
Cap Sante		0·20	
Ste. Croix	0·60	0·30	300,000
St. Augustin	0·60		500,000
Total	1·52	8·53	1,184,655
Division No. 5—			
Quebec to the Traverse		4·65	550,000
Total		4·65	550,000
Totals	1·52	66·53	1,934,655

*Not widened. †Widened.

PROGRESS of Dredging Operations at date of Writing, the close of the Season of 1920, 35-Foot Project

Locality	Distance English miles	Total length requiring dregding	Length dredged in 1920	Total length of 35 foot channel dredged	Length yet to be dredged
		Miles	Miles	Miles	Miles
Division 1—					
Montreal to Sorel	45	28·63		17·11	11·52
Division 2—					
Sorel to Batiscan	36	19·75	0·08	6·18	13·57
Division 3—					
Lake St. Peter	20	18·32		17·16	1·16
Division 4—					
Batiscan to Quebec	59	15·54			15·54
Division 5—					
Quebec to Goose Cape (North Channel)	66	8·14		0·75	7·39
Total	226	90·38	0·08	41·20	49·18

PROGRESS of the Dredging Operations at the date of Writing, the close of the Season of 1920, 35-Foot Project

Locality	Length of Dredging in Miles		Cubic yards yet to be dredged	Cubic yards dredged
	Yet to be done	Done		
Division 1—				
Longueuil Shoal	1·88	.....	549,459	171,995
Longue Pte. Traverse	0·39	0·08	443,592	51,550
Longue Pointe Curve	1·24	0·08	991,531	242,350
Pointe aux Trembles Channel	0·05	3·02	53,625	1,223,475
Ile Ste-Therese Channel	1·12	.....	146,611	.....
Varennes Curve	0·45	1·69	593,546	2,297,060
Cap St. Michel Curve	1·00	.....	500,500	.....
Cap St. Michel to Vercheres	0·25	4·47	177,139	1,913,350
Vercheres Traverse	0·25	0·47	92,763	193,625
Vercheres to Contrecoeur	1·23	0·68	816,225	554,200
Contrecoeur Channel	2·31	5·97	2,038,532	3,574,343
Lanoraie to Sorel	0·61	.....	159,215	.....
Total Division 1	10·78	16·46	6,562,738	10,221,948
Division 2—				
Sorel to Ile de Grace	0·92	4·06	895,956	2,814,104
Stone Island	1·42	0·69	466,370	414,890
Ile aux Raisins	0·99	1·10	202,125	777,224
Port St. Francis	0·67	0·33	491,303	248,275
Three Rivers	0·72	.....	533,192	
Cap Madeleine-Becancour	2·40	.....	1,348,578	
Becancour-Champlain	1·16	.....	932,750	
Champlain-Pointe Citrouille	4·06	.....	2,632,356	
Batture Ferron	1·23	.....	684,600	
Totals Division 2	13·57	6·18	8,187,230	4,254,493
Division 3—				
Lake St. Peter	1·16	17·16	1,161,570	11,335,582
Totals Division 3	1·16	17·16	1,161,570	11,335,582
Division 4—				
Batiscan-Cap Levrard	4·48	.....	2,386,168	
Cap Levrard	1·27	.....	781,666	
Cap a la Roche Curve	2·06	.....	1,836,859	
Cap Charles Channel	2·04	.....	1,077,416	
Grondines	0·83	.....	513,332	
Lotbiniere	0·47	.....	321,480	
Cap Sante	1·51	.....	655,561	
St. Croix	1·47	.....	798,518	
St. Augustine	1·41	.....	826,207	
Totals Division 4—	15·54	.....	9,197,207	
Division 5—				
Quebec to Goose Cape (North Channel)	2·84	.....	2,585,132	
Madame Reel Shoal (West Sand and East Narrows Shoal)	4·55	0·75	1,024,413	12,543,628
Totals Division 5	7·39	0·75	3,609,545	12,543,628
Totals	48·44	40·55	28,718,290	38,355,651

ABSTRACT of Work of Dredging Fleet during Fiscal Year ended March 31, 1921

Dredge.	Locality of Dredging.	Time of Service Days	Working Hours 10 per day	Hours Actual Dredging	No. of Scows Filled	Cubic Yards Dredged (Scow Meas.)	Depth of Dredging at L.W.	Width in Feet	Character of Soil	Remarks
Laval—No. 1	Forsyth Shoal	28	280	204	91	22·750	35	400	Hard pan, clay, stones	Capt. J. Baron.
	Cap a la Roche Curve	113	1,130	631½	473	117·950	30	450-550	Shale, rock, boulders	Widening.
		141	1,410	835½	564	140·700				
Lady Minto—No. 4	Ste. Anne Curve	35	350	225¾	151	37·750	35	300	Clay	Capt. Peloquin.
	Champlain	58	580	405½	264	66·000	30	450	Sand, cleaning up.	
	Forsyth Shoal	34	340	181½	42	10·500	35	400	Clay, stones, boulders	Widening.
		127	1,270	812½	457	114·250				
Lafontaine—No. 5	Forsyth Shoal	35	350	160½	49	11·150	35	400	Hard pan, clay, stones, boulders, shale rock, boulders.	Widening.
	Cap a la Roche Curve	106	1,060	587½	346	79·395	30	450-550		Capt. Bibeau.
		141	1,410	754	395	90·545				
Beaujeu—No. 8	North Channel East Narrows	80	870	713	189	291·400	35	1,000	Sand, gravel, clay and stones.	
	North Channel W. Sands	24	264	217	52	78·500	35	1,000	" "	Capt. Bourget.
	South Channel, Beaujou Bank	3	36	35½	1	500	30	1,000	Sand, cleaning up	
		107	1,170	965½	242	370·400				

Total Cubic Yards dredged, 715·895.

CLASSIFICATION of Disbursements for Fiscal Year ended March 31, 1921

Vessels	Fuel	Wages	Board	Stores and materials	Repairs and labour	Proportion of general and office expenses	Expenditure for each vessel	Rock cutter and stone lifter service of dredges	Tug service	Inspection and sweeping service	Total cost of operation of each dredge and plant during fiscal year
	$ cts.	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts.
Elevator Dredge No. 1..	11,113 55	9,263 09	2,806 55	2,235 74	8,018 67	15,996 54	49,434 14	8,542 89	23,239 21	116,848 91	98,065 15
Tug *Varennes*.....	6,165 16	5,950 91	1,735 00	1,914 38	2,624 04	4,849 72	23,239 21				
Elevator Dredge No. 4..	9,890 80	8,892 56	2,922 92	2,271 20	11,482 48	16,964 32	52,424 28	8,542 89	23,946 12	16,848 91	101,762 20
Tug *James Howden*..	6,992 87	6,659 89	2,108 10	935 00	2,253 02	4,997 24	23,946 12				
Elevator Dredge No. 5	14,274 20	9,854 30	2,810 80	1,624 42	9,551 66	18,234 03	56,349 41	8,542 88	22,519 47	16,848 91	101,260 67
Tug *Lac St Pierre*.....	6,360 48	5,733 61	2,075 07	1,105 44	2,545 35	4,699 52	22,519 47				
Hydraulic Dredge No. 8.....	42,069 94	20,640 07	4,606 34	2,951 95	20,129 48	34,800 15	125,197 93			16,848 90	142,046 83
Steamer *Detector*, divided equally between the Dredges.....	27,411 23	14,539 10	5,292 15	1,950 82	4,137 75	14,064 58	67,395 63				
Rock Cutter No. 1 {Divided equally between	3,777 95	5,463 29	1,829 40	1,756 75	1,914 83	3,887 85	18,630 07				
Stone Lifter No. 5 { the Elevator Dredges.	1,019 65	2,356 08	835 00	151 65	1,175 70	1,460 51	6,998 59				
	129,075 83	89,352 90	27,021 33	16,897 35	63,832 98	119,954 46	446,134 85	25,628 66	69,704 80	67,395 63	446,134 85

DETAILS of Dredging, Locality and Cost per Cubic Yard

Dredge	Total cost of operations of each dredge and plant during fiscal year	Number of days in operation each dredge	Cost per day operating dredges and plant	Days working each locality	Cost of work each locality	Total cost of operations of each dredge	Number of cubic yards dredged in each locality	Total cubic yard for each dredge	Cost per cubic yard each locality	Average cost per cubic yard for each dredge	Kind of material dredged	Locality of dredging
	$ cts.		$ cts.		$ cts.	$ cts.						
Elevator Dredge No. 1....	98,065 15	141	695 50	28	119,473 93		22,750		85 60/100		Clay, stones, hard-pan, boulders, shale rock and boulders.	Forsyth Shoal
				113	78,591 22		117,950		66 63/100			Cap s la Roche
						98,065 15		140,700		69 69/100		
Elevator Dredge No. 4....	101,762 20	127	801 28	35	28,044 70		37,750		74 22/100		Clay	Ste. Anne Curve.
				58	46,474 08		66,000		70 41/100		Sand (cleaning up)	Champlain channel
				34	27,243 42		10,500		2·59 46/100		Clay, hardpan, stones, boulders.	Forsyth Shoal.
						101,762 20		114,250		89 10/100		
Elevator Dredge No. 5....	104,260 67	141	739 44	35	25,880 31		11,150		232 11/100		Clay, stones, hard-pan, boulders, shale rock.	Forsyth Shoal.
				106	78,380 36		793,95		98 72/100			Cap a la Roche.
						104,260 67		90,545		1·15 11/100		
Hydraulic Dredge No. 8..	142,046 83	107	1,327 54	80	106,203 24		291,400		36 44/100		Sand, gravel, clay and stones.	North channel, East Narrows.
				24	31,860 97		78,500		40 58/100		Sand, gravel, clay and stones.	North channel, West Sand.
				3	3,982 62		500		7·96 52/100		Sand	South Channel, Beauyeu Bank.
						142,046 83		370,400		38 34/100		
	446,134 85	516		516	446,134 85	446,134 85	715,895					

SOREL SHIPYARD

Report of Officer in Charge, Louis Lacouture

At the beginning of the fiscal year nearly all vessels to be put in commission were outfitted, overhauled, and made ready for the season's operations.

The Richelieu river was clear of ice on April 1, and the St. Lawrence on April 10.

The dredges with their auxiliary vessels were put in operation on ship channel work as follows: Dredge *No. 5* on May 3, 1920; Dredge *No. 1* on May 5, 1920; Dredge *No. 8* on May 9, 1920; Dredge *No. 4* on May 24, 1920.

NEW CONSTRUCTION

No new vessels were constructed at the shipyard during the fiscal year 1920-21.

BUOY SERVICE

This department was supplied with fittings and materials, such as rods, shackles, chains, hooks, etc., and all repairs were made. Had the use of tug *Varennes*.

SIGNAL SERVICE

During the season this department had repairs made to, and supplies obtained for several stations.

ST. LAWRENCE SHIP CHANNEL

Work was done for this branch in the making and repairing of gauge boards, iron posts, supplying of timber, and also repairs to yacht *Yinkin*.

PRIVATE FIRMS

Sincennes McNaughton Line.—The tug *Sin-Mac* was hauled out on the ways on May 7, for repairs to hull.

Raymond Concrete Pile Co.—Use of shear legs and tug for putting spud and crane on dredge *Prince Louis*.

A. Beaudet, Sorel.—The steamer *Francois C* was put on the ways for winter to be lengthened and repaired.

Railway and Canal Department.—Propeller wheels of tug *Carillon* were renewed.

Hector Beauchemin, Sorel.—Necessary repairs and caulking to hull of floating house and painting.

Canada Steamships Line.—Welding done to boilers.

Mr. Benson, Sorel.—Repairs to yacht, painting.

GENERAL

The shipyard ways and wharves and all fences were kept in good repair.

The shipyard launches *Bronx* and *Sorel* were maintained in good order and painted.

The force employed during the fiscal year varied from 518 men in April to 318 in July, 1920, an average of 418 men employed daily.

*The financial statement shows the total expenditure on the Sorel Shipyard and the St. Lawrence Ship Channel for the fiscal year to have been $607,625.27.

*Note.—The statement of expenditure of the Government Shipyard, Sorel, P.Q., does not agree with the statement of expenditure prepared at Headquarters, as the books are not kept in the same way.

The yard credits their appropriations for their claims against other departments immediately on the sending of their accounts to Ottawa for collection. These claims are credited in Ottawa to the appropriation only when they are collected.

EXPENDITURE AND REVENUE

Statement of Expenditure and Revenue, Marine Department, 1920-21

Service	Appropriation	Expenditure	Balance	Overdraft
	$ cts.	$ cts.	$ cts.	$ cts.
Ocean and River Service—				
Dominion steamers	1,804,000 00	1,799,420 57	4,579 43	
Examination of masters and mates	18,000 00	18,126 50	.....	126 50
Investigation into wrecks	12,300 00	4,492 57	7,807 43	
Removal of obstructions	5,000 00	482 09	4,517 91	
Registration of shipping	10,200 00	1,769 37	8,430 63	
Expenses schools of navigation	8,000 00	5,441 51	2,558 49	
Cattle inspection	3,000 00	2,649 10	350 90	
Subsidy to wrecking plant	35,000 00	35,000 00		
Unforeseen expenses	5,000 00	2,826 11	2,173 89	
Life-saving service	90,000 00	59,685 30	30,314 70	
Motor patrol in British Columbia	65,000 00	69,120 71	.....	4,120 71
Repairing the *Aranmore*	75,000 00	76,216 92	.....	1,216 92
Distressed seamen	6,500 00	6,384 44	115 56	
	2,137,000 00	2,081,615 19	60,848 94	5,464 13
Less overdraft	.....	.....	5,464 13	
			55,384 81	
Public Works—				
Sorel Shipyard	65,000 00	100,414 33	.....	35,414 33
Ship channel	508,000 00	507,211 94	788 06	
New ice-breaker	2,000,000 00	972 35	1,999,027 65	
Shipbuilding programme	20,000,000 00	19,994,513 93	5,486 07	
	22,573,000 00	20,603,112 55	2,005,301 78	35,414 33
Less overdraft	.....	.....	35,414 33	
			1,969,887 45	
Lightbouse and Coast Service—				
Agencies, rents and contingencies	198,000 00	188,474 65	9,525 35	
Salaries	650,000 00	644,767 92	5,232 08	
Maintenance and repairs to lighthouses	800,000 00	786,388 60	13,611 40	
Construction of lighthouses	400,000 00	398,145 91	1,854 09	
Administration pilotage	400,000 00	120,039 63	279,960 37	
Repairs to wharves	10,000 00	6,791 66	3,208 34	
Pensions to pilots	10,200 00	9,000 00	1,200 00	
Telephones *re* aids to navigation	500 00	.....	500 00	
Breaking ice	40,000 00	40,000 00		
Allowance, barbour master at Amherstburg	600 00	400 00	200 00	
Signal service	69,000 00	68,734 84	265 16	
Job Bros., Greenly island	375 00	375 00		
	2,578,675 00	2,263,118 21	315,556 79	
Scientific Institutions—				
Meteorological service	245,000 00	208,591 53	36,408 47	
Steamboat inspection	105,470 00	97,703 64	7,766 36	
Miscellaneous—				
Bonus	.....	234,448 19		
Gratuities	.....	3,263 96		
Steel purchase	500,000 00	189,720 33	310,279 67	
Classification arrears	.....	65,997 66		
Retirement Act	.....	850 00		
	500,000 00	494,280 14	310,299 67	
Civil Government—				
Civil Government salaries	231,810 00	231,810 00		
Contingencies	59,000 00	58,670 65	329 35	
	290,810 00	290,480 65	329 35	

RECAPITULATION OF SERVICES

Ocean and river service	2,137,000 00	2,081,615 19	55,384 81
Public works	22,573,000 00	20,603,112 55	1,969,887 45
Lighthouse and coast	2,578,675 00	2,263,118 21	315,556 79
Scientific institutions	245,000 00	208,591 53	36,408 47
Steamboat inspection	105,470 00	97,703 64	7,766 36
Civil Government	231,810 00	231,810 00	
Contingencies	59 000 00	58,670 65	329 35
Steel purchases	500,000 00	189,720 33	310,279 67
	28,429,955 00	25,734,342 10	2,695,612 90
Miscellaneous	.....	304,559 81	
		26,038,901 91	

REVENUE STATEMENT, FISCAL YEAR ENDING MARCH 31, 1921

—	Gross	Refunds	Net
	$ cts.	$ cts	$ cts.
Harbours	1,019 00	5 00	1,014 00
Piers and wharves	105,796 61	763 78	105,032 83
Dominion steamers	4,075 20	24 50	4,050 70
Civil Service insurance	45 85	.....	45 85
Examiaation of masters aad mates	4,252 05	20 00	4,232 05
Steamboat inspection fund	74,016 05	709 57	73,306 48
Decayed pilots fund	7,320 42	39 04	7,281 38
Casual revenue	125,215 64	1,320 23	123,895 41
Fines and forfeitures	540 00	.....	540 00
Signal service	612 00	.....	612 00
Marine registry searches	78 23	.....	78 23
Halifax pilots' pension fund	1,527 42	.....	1,527 42
Halifax pilotage dues	47,447 00	.....	47,447 00
St. Joha pilots' pension fund	1,662 00	.....	1,662 00
St. John pilotage dues	25,891 87	.....	25,891 87
	399,499 34	2,882 12	396,617 22

METEOROLOGICAL SERVICE

REPORT OF SIR FREDERIC STUPART, DIRECTOR

During the past year meteorological observations have been taken by 634 observers connected with the Government service, and reports from them have been received at the Central office either daily by wire or monthly by mail. Since my last report seventeen stations have ceased reporting, while on the other hand thirty-six have been added to the list.

The following are the new stations:—

Crofton, B.C. . . . . C. F. Walker.
Harper Ranch, B.C. . . . . Mrs. Lott.
Mayne Island, B.C. . . . . H. Lawrence Houlgate.
Port Renfrew, B.C. . . . . L. A. Gritten.
Rotla, B..C. . . . . E. S. Jephson.
Willam Head, B.C. . . . . Ira E. Cornwall.
Pincher Creek, Alta. . . . . Arthur E. Cox.
Stoppington, Alta. . . . . A. C. Stopp.
Three Hills, Alta. . . . . Wm. Burns.
Biggar, Sask. . . . . F. Hopkins.
Kisbey, Sask. . . . . S. G. Soper.
Lanigan, Sask. . . . . Jno. F. Richardson.
Lestock, Sask. . . . . C. L. Russell.
Perigood, Sask. . . . . Geo. B. Harris.
Stanley Mission, Sask. . . . . T. Bear.
Turtleford, Sask. . . . . Sanford Manson.
Yonker, Sask. . . . . C. Roy Christie.
Belleville, Ont. . . . . Waterworks Department
Jacksonboro, Ont. . . . . Geo. R. Lawson.
Longuelac, Ont. . . . . S. A. Taylor.
Muskoka Falls, Ont. . . . . Jas. A. Lawrence.
Sault Ste. Marie, Ont. . . . . J. V. Forster.
Simcoe, Ont. . . . . T. E. Langford.
Wasdell's Falls, Ont. . . . . Geo. Blackwell.
Cap de la Madeleine, Que. . . . . S. F. Jennings.
Chandler, Que. . . . . Chas. Samson.
Lake Onatchiway, Que. . . . . H. Mancheron.
Mont Laurier, Que. . . . . Rev. R. Mercure.
St. Tite, Que. . . . . Bros. Louis Gabriel.
Tewkesbury, Que. . . . . Geo. E. Wallis.
Harvey Station, N.B. . . . . E. H. Rand.
Plaster Rock, N.B. . . . . E. R. Irvine.
Woodstock College, N.B. . . . . R. W. Maxwell.
Cape Race, Nfld. . . . . Jno. Kerton.
Lake Harbour (resumed) Baffin Land. . . . . A. L. Learmonth.

The weather reporting stations are in two divisions, the first of which includes 352 stations where the observing is performed voluntarily by observers who keep a record of the weather using meteorological instruments supplied by the Government. In the other division are 282 stations where remuneration is allowed proportionate to the duties performed. These latter stations are of various classes, as follows: 15 Chief stations, at which self-recording instruments register the various meteorological elements continuously; 41 Telegraph reporting stations, from which bi-daily reports are telegraphed to the Central office; 70 Climatological stations, where the daily maximum and minimum temperature, precipitation and general weather conditions are recorded throughout the year; 118 rainfall stations, where the precipitation alone is reported; and 37 Western Bulletin stations, where the temperature and rainfall is recorded between April and October. In most instances the Chief stations report by telegraph, and in many instances the rainfall observers voluntarily perform the full functions of a climatological station. In addition to the observing stations there are 110 storm signal stations, the agents at which report the weather conditions during the time the signals are displayed.

The most important and fully equipped stations, outside Toronto, are at Victoria, Montreal, Quebec and St. John, and short reports on these stations are given in appendices A, B, C, D. Winnipeg has also become a very important station and throughout the year a weather map has been published each day exclusive of Sundays and holidays.

CENTRAL OFFICE

The work at the Central office has been steadily increasing. The establishment of six pilot balloon stations for obtaining data necessary to the aviator and incidentally for the study of the upper air currents has made further assistance imperative. The railways call upon the service with ever-increasing frequency for meteorological data required in the settlement of claims against them; legal firms ask for many certified statements and investigators in the many branches of science connected with agriculture and forest and plant growth solicit the assistance of the Meteorological Service in obtaining data indispensible for the solution of these various problems.

Forecasts have been issued twice daily for all parts of the Dominion and Newfoundland and the percentage of verification has been 84 per cent.

Until last year, with the exception of occasions when storms were expected, no forecasts were issued either on Saturday night or Sunday morning, but now they are issued at these times to the Dominion Wireless stations for transmission to ships both on the Great Lakes and at sea.

The storm-warning service was maintained throughout the year in the Maritime Provinces and during the season of navigation on the Great Lakes and gulf of St. Lawrence. Of the total number of warnings issued 84·4 per cent were verified. In point of frequency November was the stormiest month, but the gale of December 14, of which warning was given well in advance, was the severest of the season on the Great Lakes.

The following stations were inspected from the Central office: Quebec, Father Point, Dalhousie, Bathurst, Caraquet, Shippigan, Chatham, Point Escuminac, Richibucto, Point du Chene, Charlottetown, Summerside, Tignish, Georgetown, Souris, Bonaventure, Paspebiac, St. Godfrey, Port Daniel, l'Anse au Gascons, Newport, The Pas, Qu'Appelle, Moose Jaw, Swift Current, Medicine Hat, Calgary, Edmonton, Kamloops, Vancouver, Winnipeg, Minnedosa, Prince Albert, Battleford, Saskatoon, Banff, Lethbridge, White River, St. John, Digby, Yarmouth, Liverpool, Lunenburg, Halifax, Peggy's Point, Port Hood, Margaree Harbour, Grand Etang, Cheticamp, Petit de Grat, Sydney, Louisburg, Port Morien, Glace Bay, North Sydney, Sydney Mines, Alder Point.

The following Newfoundland stations were inspected; Port Aux Basques, Cape Race, St. John's, Burin and Fogo.

The daily weather map containing the data on which the forecasts are based has been published every day throughout the year; the issue for Sundays and statutory holidays is printed on the day following.

Publications.—Four hundred and fifty weather maps have been distributed each day, chiefly to business firms and schools, but many copies are displayed where the public may see them. Each month 645 monthly weather maps and 505 copies of the Monthly Weather Record have been sent out; this latter publication being the official permanent record of the Canadian weather. A small annual issue of 148 copies of the Toronto Meteorological Year Book for 1919 has been distributed, chiefly to observatories.

PHYSICS BRANCH

The section was occupied chiefly with the establishment of pilot balloon stations at the aerodromes of the Air Board. The equipment and balloons were furnished by the Meteorological Service and the staff at the aerodromes did the work. The single theodolite method for following the balloons was adopted. This method assumes that a balloon will rise at a constant rate depending on the weight of the balloon and the free lift, "The weight that the balloon will just lift." The results of many series of observations have shown that after the first five or six minutes the rate is very constant as the gradual loss of hydrogen just balances the increased velocity due to diminished air pressure. The rate of ascent adopted for the balloons was 160 metres per minute (525 feet per minute) and this requires a free lift of from 80 to 100 grammes.

Stations were opened at Vancouver, B.C.; Morley, Alta.; Camp Borden, Toronto, Ottawa, Ont.; and Roberval, Que. Toronto and Camp Borden were opened in June, Vancouver and Morley about the end of August, and Ottawa and Roberval in October. All the stations were closed during the winter and the one at Morley has been moved to High River, Alta.

Balloons were despatched from these stations daily unless the day was foggy or the clouds very low. The ascents were made in the morning and at Toronto the results were obtained in time to be used in the forecasts. The highest flight obtained at Toronto was on September 4; the balloon was followed for ninety-four minutes and reached a height of nearly 50,000 feet, when it burst.

Instruments and equipment for pilot balloon and magnetic observations have been made in the office for a station at Fort Good Hope to be operated for a year or more in connection with the International work of the Amunsden expedition.

It was impossible to get the large balloons for carrying instruments until January of this year and some flights were made from Kingston, but only about 25 per cent of the balloons were recovered and the attempt had to be abandoned; the ascents will take place from Woodstock as before. The department desires to take this opportunity of thanking Professor Clark, Ph.D., of Queen's University, for superintending the ascents at Kingston.

The apparatus for atmospheric electricity has been redesigned and partly reconstructed but there was not time with the other work that had to be done to test it out.

A satisfactory design of resistance thermometers for taking the temperature of ocean water on board ship has been worked out and it is hoped to equip some of the Pacific ships with them this year. Considerable progress has been made with the installation of thermometers for earth temperatures.

CLIMATOLOGY AND AGRICULTURAL METEOROLOGY

In the Monthly Record have been compiled and published hourly or bi-hourly records from the principal stations, daily records from fifty-two telegraph stations, and monthly means and extremes for some five hundred stations of the second class, for about eighty-five precipitation stations, and about sixty sunshine stations.

Preparing statements of the weather for legal claims in actions-at-law or for similar purposes has become a great burden to this division. Commencing with the January number for 1921, to obviate the necessity for so much copying, we are publishing in the *Monthly Record* the daily maximum and minimum temperatures and daily rainfall or snowfall for some two hundred stations in addition to the fifty telegraph stations. This arrangement will allow public carriers and their customers to gather in future from the pages of the *Monthly Record* practically all the data needed to settle disputes involving the weather.

A report of the climate of the western provinces, with sixteen large meteorological maps, has been issued. A report on the climate of Ontario is in preparation.

Special articles for other departments or for provincial governments, tables, maps and diagrams have been prepared during the year.

Research is continuing into the effect of weather-changes on crops, as to yield and quality. Better arrangements have been made for gathering observational material and for its analysis. Mr. Connor attended a Meteorological Conference in Washington and made preliminary arrangements for an interchange of certain data on crop growth which will be of great assistance to this division.

A study of tree sections in relation to contemporaneous weather changes has been begun and it is hoped that later we may be able to carry back the meteorological history of the dry regions of the west beyond the earliest observations in the early eighties, and so to gain a better idea of the probable incidence and severity of droughts in various districts of the wheat regions. Mr. McDougall's previous training and experience in forestry will be of great value in this particular field.

MAGNETIC OBSERVATIONS

During the fiscal year 1920-21, continuous photographic records of the magnetic elements at Agincourt were secured without material loss. Magnetic disturbances were less frequent than for several years being synchronous with decreasing sunspots and auroras. The more pronounced disturbances occurred on the following dates: 1920-April 15, September 28, 29. During the latter of these the recording limits of the instruments were exceeded for short intervals.

Absolute observations made weekly kept good control of the value of the base line of the differential instruments.

Tables showing the magnetic character of each day were prepared and copies forwarded to the International Commission on Terrestrial Magnetism. The "selected days" of the commission are used in the analysis of the magnetic data for the Annual Magnetic Report. The 1919 report is now in course of preparation.

At the request of the Surveyor General index corrections for compasses attached to sixty-five surveyor's theodolites were determined and the results forwarded to him. Assistance was also given to several members of his staff in determining the constants of their total force instruments both before and after their summer field work.

Mr. French and Major Pearce, of the Dominion Observatory staff, were also assisted in standardizing their magnetometers both before and after their field work.

At Meanook the photographic records of declination were obtained with only slight loss. During the very cold weather difficulty was again experienced in maintaining continuous operation of the clocks. This would to a great extent be overcome if the differential apparatus were placed underground as at Agincourt.

The weekly observations of declination and inclination were continued throughout the year and twice monthly observations of horizontal force.

The Meanook traces were loaned to the Surveyor General, and the Agincourt traces to the Dominion Observatory for use in the reduction of their field work.

The accompanying tables give a summary of the results obtained at Agincourt and Meanook during the fiscal year 1920-21:—

SUMMARY of Results of Magnetic Observations made at Meanook during the Fiscal Year 1920-21

Month	Mean Monthly Values			
	D East	H	Z	I
	° ′	✓	✓	° ′
1920				
April	27 38·0	12,908	60,228	77 54·2
May	39·0	08	142	53·2
June	38·0	40	266	52·9
July	38·3	15	141	52·8
August	38·1	11	182	53·5
September	38·7	20	258	53·9
October	38·7	26	260	53·6
November	37·7	26	277	53·8
December	37·0	28	218	53·0
1921				
January	37·0	34	246	53·0
February	36·5	20	198	53·2
March	36·2	16	197	53·4

MEANOOK DAILY AND MONTHLY RANGES OF D

Month	From hourly readings	From Max. and Min.	Absolute Monthly range
	′	′	° ′
1920			
April	17·8	50·9	3 49·9
May	16·2	44·1	2 58·3
June	17·1	28·8	1 56·5
July	17·3	30·6	2 19·3
August	17·6	38·9	1 52·6
September	12·6	60·0	2 57·4
October	11·3	43·0	3 12·3
November	8·8	30·5	2 05·0
December	10·4	32·4	4 17·1
1921			
January	5·8	23·1	0 57·6
February	6·6	22·3	1 35·4
March	9·1	34·4	2 07·8

SUMMARY of Results of Magnetic Observations made at Agincourt during the Fiscal Year 1920-21

Month	Mean Monthly Values			
	D. West	H	Z	I
	° ′	γ	γ	° ′
1920				
April	6 44·5	15,864	58,202	74 45·2
May	44·7	76	179	44·2
June	44·1	77	164	43·9
July	45·1	72	146	43·9
August	46·3	67	139	44·1
September	46·9	49	129	44·9
October	47·1	46	122	45·0
November	47·2	51	115	44·6
December	47·5	56	122	44·5
1921				
January	48·2	55	110	44·3
February	48·2	57	107	44·2
March	49·0	53	099	44·3

AGINCOURT DAILY AND MONTHLY RANGES

Month	D			H			Z		
	Mean Daily Range		Absolute Monthly Range	Mean Daily Range		Absolute Monthly Range	Mean Daily Range		Absolute Monthly Range
	From hourly readings	From Max. and Min.		From hourly readings	From Max. and Min.		From hourly readings	From Max. and Min.	
1920	′	′	° ′	γ	γ	γ	γ	γ	γ
April	11·9	24·9	1 11·1	50	106	455	25	67	413
May	12·9	20·4	0 46·3	49	94	385	18	50	245
June	13·5	19·0	0 36·3	43	70	253	14	33	173
July	14·2	20·6	0 54·2	46	77	210	16	36	205
August	13·9	23·1	1 17·8	48	82	424	17	52	375
September	11·9	28·1	1 57·0	58	146	826	37	100	572
October	9·2	20·8	1 14·2	42	80	419	15	34	229
November	8·7	16·0	0 50·7	29	55	140	12	29	269
December	6·5	15·9	1 11·2	28	56	190	10	22	187
1921									
January	6·6	13·4	0 37·9	26	44	108	4	11	42
February	6·7	12·9	0 34·3	25	45	102	4	12	46
March	10·4	19·3	0 47·2	36	63	200	10	24	125

TIME SERVICE

During the year ending March 31, 1921, seventy-two determinations for time have been made with the Houghton and Simms transit instrument of 3-inch aperture.

The positions of the stars have mostly been taken from the American Ephemeris and British Nautical Almanac.

The usual observations have been taken frequently to determine the instrumental errors of the transit instrument in azimuth, level and collimation.

Inquiries for time, both mean and sidereal, have been numerous, and rating of chronometers and watches, both sidereal and mean time, has been carried on throughout the year.

The sidereal and mean time clocks have given great satisfaction. These clocks have been in use since the establishment of the Observatory and are still in good order and performing well.

The usual 11.55 a.m. signal on the fire-alarm system has been continued throughout the year.

Time has been given weekly to the Magnetic Observatory at Agincourt.

Visitors and others have been very numerous and accorded privileges of viewing the heavenly bodies whenever opportunities offered with the 6-inch telescope.

The time exchanges between Toronto and Quebec, Montreal and St. John, N.B., have been made as usual, being recorded on the chronographs at Toronto, Montreal and St. John.

The errors of the clocks have been computed from the latest observations.

The following table will show the differences between the times of the several observatories and that at Toronto. The sign indicates slow of Toronto.

Date	Montreal	Quebec	St. John
1920	seconds	seconds	seconds
April 9	0·63	wire trouble	0·75
April 23	0·57	1·31	0·80
May 7	0·27	0·19	0·13
May 21	0·31	0·53	0·79
June 11	0·29	0·42	0·68
July 9	0·09	0·74	No exchange
July 30	0·37	1·02	trouble on loop
September 10	wire open	0·22	0·12
October 8	1·12	0·10	0·71
November 5	0·12	0·05	0·71
December 10	1·10	0·21	0·28
December 31	0·72	0·45	0·25
1921			
January 21	0·02	0·56	1·29
February 4	0·27	1·51	0·01
February 25	0·26	0·48	0·33
March 11	0·81	0·82	0·90

SOLAR OBSERVATIONS (CIVIL YEAR 1920)

The sun was observed on 165 days and on four of these, namely, April 8, 23, and September 17, 18, it was free of spots. The usual maps were made with the 6-inch equatorial refracting telescope showing the position of the sun's axis and equator, together with the N., S., E. and W. points.

The relative number of sunspots (computed from Wolf's formula, $r = 10g + f$ where g is the number of groups visible on any day, and f the total number of spots, whether they were in the groups or isolated) for the months of the civil year ending December 31, 1920, were: January, 59·7; February, 56·9; March, 86·6; April, 17·8; May, 41·8; June, 54·1; July, 33·7; August, 18·8; September, 44·4; October, 63·3; November, 35·7; December, 38·8. Yearly mean being 46·0, that for 1919 being 74·6, showing a decrease of 28·6.

The largest spot group during the year was first observed on March 15, its northern edge just grazing the equator. It was composed of numerous moderately sized penumbrae spots with many smaller ones together with very small spots, forming a very beautiful and spectacular group stretching parallel and close to the equator for a fourth of the sun's visible disk, and disappearing over the western limb March 28. Its greatest relative spot number was on the 22nd, being 172.

SEISMOLOGICAL OBSERVATIONS

The seismographs at Toronto and Victoria have continued in operation with little loss of record throughout the fiscal year. One hundred and thirty-eight disturbances were recorded in Toronto, the greater number being of small amplitude. This is 47 greater than the normal number and is in striking contrast to the small yearly number recorded from 1900 to 1913. The largest monthly total, 19, occurred in March, and the least, 7, in November. The principal movements were on September 20 and December 16, the latter being one of the largest ever recorded here, possibly next to the San Francisco quake of April 18, 1906. The seat of the disturbance was in China, the provinces of Shensi, Kansu and Szechwan being particularly affected. Damage to life and property was appalling, whole families were completely wiped out, hills came down into ravines and thousands of people as well as their animals were completely buried alive. Streets opened up, causing the houses on both sides to fall together. These are only a few of the terrible list of casualties.

We continue to forward abstracts of our observations to various seismological centres throughout the world and receive a large number of bulletins in return. We also furnish the Associated Press by request with information regarding the distance, character, etc., of any large earthquake.

Investigation regarding the correlation of microseisms and meteorological phenomena has been regularly carried out as well as the plotting of large earthquakes.

The new Milne Shaw instruments referred to in our last report have not yet arrived.

PHENOLOGICAL OBSERVATIONS

Records of dates of the flowering of plants, leafing of trees, ploughing, sowing, reaping, etc., which, to be of value, require considerable care and attention, are undertaken wholly by voluntary observers. These records are not only valuable from a climatological and agricultural point of view, but are of use to botanists, ornithologists and others. The summary of observations kindly supplied by Dr. A. H. Mackay, Superintendent of Education for Nova Scotia, which covers the whole of that province, is excellent as usual. Reports from other portions of the Dominion showed a somewhat diminished interest, excepting in the province of Saskatchewan, where, under the direction of Mr. W. H. Magee, Inspector of Schools, the number of reports was increased. The collection and preparation for publication of these reports is in charge of Mr. F. F. Payne, of the Central office.

Appendix "A"

The Director of the Quebec Observatory reports as follows:—

During the year under review, numerous inquiries have been received concerning weather conditions, and in many instances, from members of the legal profession, in cases where such information was required.

Apart from the Official Weather Bulletin, which is communicated daily to the public, this office has answered a considerable number of inquiries from residents of this city, tourists, and from farmers during the harvesting season, concerning the local weather forecasts.

The correct time was given regularly by means of the noon-gun and the time-ball, and also by telephone.

The various instruments at this station have been verified during the year by one of the inspectors of the department, and are kept in good working order.

The time-ball was dropped for the last time on the 20th of December last, when the last steamers left the harbour at the close of navigation season. It will be dropped for the first time, this year, on the 1st of April, the river being now clear of ice from Montreal to the gulf of St. Lawrence.

Appendix "B"

The Director of the St. John, N.B., Observatory reports as follows:—

METEOROLOGICAL SERVICE

No changes have been made in the meteorological equipment nor in the exposure of the instruments. All apparatus, including the electrical and autographic recorders, have been maintained in good working condition.

The records of this observatory from the autographic and electrical registering instruments show the state of the atmosphere, during every instant of the day and night. The factors thus continuously noted are the pressure of the atmosphere, temperature, humidity, sunshine, rainfall, wind direction and velocity. Hourly abstracts

have been made and daily and monthly means computed. These records have been supplemented by the chief station tri-daily eye readings of the instruments and observations of the various meteorological elements made at equal intervals of six hours, commencing at 9 a.m. Atlantic standard time. Results of the morning and night observations are immediately telegraphed to the Central office, Toronto, for use of the weather chart. An extra observation is taken on week days at noon to accompany a daily report furnished the afternoon papers. The eye readings of the standard instruments serve the purpose of checking the automatic recorders. Readings of the solar and terrestrial radiation thermometers have been made daily.

Wind records of direction and velocity registered by the anemograph at Point Lepreaux station, sent here weekly, have been tabulated for every hour and a monthly analysis abstracted. This station with its free exposure to the bay of Fundy continues to give most useful information of the wind direction and its velocity.

The wind vanes and anemometers at Point Lepreaux and St. John are frequently changed, cleaned and lubricated to ensure good results, duplicate instruments being kept in condition to make these changes when necessary.

The number of requests for information from the official records has largely increased and considerable time is consumed in answering these inquiries from engineers, contractors, shippers, transportation companies and other.

Innumerable telephone calls have been received daily, and frequently at night, for the forecasts, prevailing conditions, and other information concerning the weather. In addition to our daily local report the press continue to make free use of information, particularly during stormy or unsettled weather conditions. On occasions special messages have been telegraphed to pilots of air craft passing this way.

WEATHER BULLETIN

The morning weather bulletin from Central office received by telegraph has been printed on the duplicating machine and promptly issued. Some curtailment of the issue was caused by the cancelling of its free distribution by the postal authorities. Several firms agreed to pay the necessary postage rather than do without the valuable information contained therein.

The monthly reports received from all the observers in the Maritime Provinces have been checked and in most cases sums and mean values extracted. After extracting the necessary data for our registers, these returns were forwarded to your Central office. The necessary annual supplies for Maritime Province stations have been packed and shipped. Under your direction temperature and rainfall observing stations have been opened and others requiring inspection visited.

TIME SERVICE

For determination of clock errors and rates, star observations have been made on available nights with the 3-inch Troughton & Simms meridian telescope. The transit micrometer method of observing has been used entirely throughout the year, reversing the telescope on each star to take care of collimation and pivot error, nine contacts being made in each position of the axis and the records from these contacts recorded on the chronograph along with the seconds from the observing clock as formerly reported. Comparisons of the Sidereal and mean time transmitting clocks have been made on the chronograph and any small error of the transmitting clock corrected by the electrical apparatus formerly described.

The Riefler sidereal clock, mounted in the equal temperature vault in the basement, where it has been running under constant pressure and temperature conditions, has continued to give most satisfactory and reliable results. The Kulberg sidereal and mean time transmitting clock have been cleaned and adjusted. The daily time

signals which reach nearly all important points in the Maritime Provinces have been regularly transmitted direct from the mean time clock every week day at ten o'clock.

The time-balls at St. John and Halifax under control of the time service of this observatory have been dropped each week day throughout the year at 1 p.m. Atlantic standard time. In some parts of the Maritime Provinces the so-called daylight saving time was in operation for a portion of the year, while in other parts standard time was in use, thus causing considerable confusion.

The master clock in Halifax, which is daily synchronized by wire from our standard mean time clock, continues to give satisfactory service for automatically dropping the time-ball, firing the gun and hourly synchronizing clocks electrically connected with it in Halifax.

In St. John this extensive system of hourly correcting office, tower and street clocks has given most useful results; little or no trouble has been experienced and the service from several years' operation has proved highly satisfactory.

Owing to additional clocks and time-dating stamps in their offices here the Western Union have run a special loop to connect with our master clock. Previous to this they made use of the loop which carries the regular time signals, but as this only gave them synchronizing service for portions of the day and night they decided a continuous service would be more satisfactory.

Appendix "C"

The Director of the Gonzales Heights Observatory, Victoria, B.C., reports as follows:—

During the past year the regular meteorological observations have been taken and daily weather forecasts issued for the following districts: Vancouver Island, the Lower Mainland, Kamloops, and Kootenay. During the spring and early summer special frosts warning forecasts were issued daily to the following fruit-growing centres: Vernon, Kelowna, and Penticton in the Okanagan, and also to Nelson and Creston in Kootenay. In the autumn forecasts were issued to the same districts respecting the advent of killing frosts for the benefit of vegetable growers, and later warnings of severe frosts were issued as an aid to the fruit pickers, and finally temperatures were furnished daily from British Columbia to Manitoba to the large fruit shippers in order that they might know what temperatures would be encountered in shipping eastward, and also forecasts a day in advance were issued for their benefit.

Storm warnings have been issued for the ports of Victoria, Vancouver, and Nanaimo with beneficial results, especially by owners of small craft, and during the stormy months almost daily 'phone and telegraph inquiries have been received from fishing and towing interests respecting weather conditions.

During the summer months the Provincial Forestry Department has been advised of coming hot spells and probable wind forces and directions to be encountered.

The time service has been very satisfactory throughout the year and the clocks and chronometers have retained remarkably steady rates throughout, largely due to the even temperature the time room is kept at for all seasons. The time-ball has been dropped daily in the city from here by wire with only one or two wire interruptions. Time is also sent out from here daily by wireless at 10 a.m. to all shipping and wireless stations within a radius of 300 miles. This is proving of great benefit to mariners desirous of rating their chronometers before leaving port. As the city of Victoria has for some time been desirous of obtaining a reliable gun-fire time signal at 9 p.m., I am pleased to state that General Ross, Commanding Officer here, has installed a regular gun for this purpose at the barracks, and to ensure accurate time for firing this I have arranged with the commanding officer to receive the time each night by 'phone from this office; that is, the officer on duty calls this office at two minutes to

the time of firing, and receives the order to direct fire from our corrected chronometer through the special 'phone placed in the time room. The time error in firing is checked here by the gun concussion in the 'phone, which very seldom exceeds one second. We also fire the same gun at noon in the same manner, but this is not heard so generally as the night one, which is greatly appreciated by the citizens.

During the past year I have addressed a number of school classes and public meetings upon educational lines pertaining to our service, and am pleased to state that this institution is becoming so favourably known that during the past twelve months nearly three thousand visitors have been shown over it, and these appear to have greatly appreciated the personal attention and information given them.

During the past year 131 earthquakes were recorded here on the seismographs, and the greatest monthly number was 18 in March. Owing to the specially constructed "cushioned" cement floors in the basement all visitors were allowed to pass through the seismograph rooms and have all the working parts of these instruments explained to them without interfering with the records.

In conclusion I would suggest that in order to increase the efficiency of our storm warning service during the stormy months of winter that arrangements be made with the owners of the transpacific liners that leave from and return to the strait of Juan de Fuca that they send wireless barometer and weather readings at 5 a.m. and 5 p.m. 120th meridian standard time to our wireless stations when within sending distance of those on the coast, in order that these reports may quickly be forwarded to our Gonzales wireless station, then 'phoned to this office, where they will materially aid in determining the position of the great Pacific storms hours in advance of our coast reporting stations now relied on.

I would again respectfully urge that the seismographs which have been ordered from England some time ago for here be forwarded as soon as possible, for being the most efficient in the world, the records from them when installed here will be greatly appreciated locally, and by seismologists abroad who by access to our records will be able to determine the place of origin of these quakes more accurately than in the past.

Appendix "D"

The Director of the McGill University Observatory reports as follows:—

The year's work of this station has been uninterrupted and has been, as in former years, the carrying on of the weather and time service. The demands made by the city for information have not lessened and we are continually at a disadvantage in striving to answer inquiries of all sorts which are usually legitimate. Our facilities, equipment and staff are inadequate to fulfil that concept in the public mind of a properly supplied meteorological or astronomical observatory. For a city of the importance of Montreal these services should be on a more adequate scale.

We cannot but continue to insist that both the university and the Government should have in mind the necessity of an observatory in Montreal, better located, better equipped and a greater service to the public and the university than the present McGill College Observatory.

The meteorological work done is that prescribed by the Meteorological Service, which directly concerns the public at large. Apart from visiting students, and the certain facilities provided some few of them by the meteorological equipment, the university has little interest in or advantage from the meteorological work. There are no meteorological courses provided for in the curriculum. On the other hand, the public addresses itself to the university as much as to the Meteorological Service for such information as we are always ready to impart. As an astronomical observatory, apart from the time service and the facilities for aiding the small classes in practical astronomy thereby provided, we have no equipment or pretensions.

The site is entirely unsuitable for astronomical observations and to some extent for meteorological work.

The co-operation of the Government and university in providing a new observatory on another site, largely given to meteorological work, and with astronomical equipment that might serve for instructional purposes, if no more, might be expected. McGill University, dependent on the public for financial support, might, we think, accept this means of better serving its interests and those of its supporters. And the Government duty is to provide a better meteorological station for Montreal than the present.

In view of our hesitation in asking for extensive alterations and additions to an antiquated institution on an unsuitable site no complaints are made of immediate condition of the equipment.

For the support of the staff, however, the funds are continually deficient.

Our estimates for the staff as at present are: Superintendent, $1,000 annually; time clerk, $600 annually; weather clerk, $600 annually; office girl, $340 annually.

The superintendent, for personal reasons, has found it wise to aid the time clerk to relieve himself of a routine chore that demanded the surrender of all liberty. The necessity of having this assistance was always admitted, but whether the estimate will be approved is as yet uncertain.

The question of residence does not enter, as the superintendent engineer of the university now has the privileges of the residence, and the writer rents his quarters in the building from the university.

Having in mind the purpose for which the residence formerly stood, the writer applied for it, offering a reasonable rental, but no action being taken on his proposal for three months, he withdrew it and dismissed the subject.

It may be said that while there exists in name an observatory department in the university, there exists no defined policy with its regard.

The financial resources on which the observatory depends are those grants and supplies from the Meteorological Service, grants and supplies from the university, cash grants from the city, the Harbour Commissioners and the subscribers for the time signals, from the Canadian Pacific and Grand Trunk Railways, and some half dozen jewellers.

The revenues and expenditures are handled through the bursar's office entirely. Financial statements to be forwarded will be requested and forwarded as soon as available.

No new apparatus was added in the year. An old Friez thermograph was replaced with a new one from the Meteorological Service and all minor supplies requested were promptly provided.

The four astronomical clocks, two sidereal and two mean time, were kept regulated and have performed satisfactorily.

The results of seventeen time exchanges with Toronto were separately submitted a few days past. We have supplied the railways and city with time signals with no complaints. We must, however, again draw attention to the harbour time-ball. We have attended to the switch every week-day noon without fail. Frequently the ball is not up, or there is no current in the loop, and we learn that the attendant at the harbour does not regularly raise the ball except in the navigation season. We have had to write the secretary of the H.C.M. accepting as our responsibility only the throwing of the switch. We, however, continually report to the harbour office or the wire chief the lack of current on the loop. The time-ball is so exposed as to be quite invisible to a large part of the shipping.

In the course of the present month, the re-erection of several poles and repairs to the cable here from the Mount Royal tower, where the anenometer is exposed, were attended to at our request by the college labourers. The account of this we have asked for, and expect to have it rendered to the Meteorological Service.

The calendar recorder of difference of temperature between the mountain and campus is being kept in operation. We find the records not amenable to analysis and have failed to draw any systematic conclusions from them. The erratic results confirm our belief that the compensation is not perfect, nor the exposure on the hill suitable.

We do not allow the local adoption of daylight saving time to affect our taking of records. It causes inconveniences with the staff in the taking of observations and sending of time signals however.

That discussion and conference between the head of the Meteorological Service and the principal and governors of the university regarding the future of the observatory would lead to a clearer definition of policy we respectfully submit.

REPORT OF L. A. DEMERS, WRECK COMMISSIONER

Formal investigations during the year	29
Preliminary inquiries during the year	11

During the calendar year 1920 there were 227 casualties reported to the department, the tonnage of same being 222,928 net, and the stated damage $1,643,825, while 28 lives were lost.

Of this total number of casualties 188 were to coasting and sea-going vessels, the tonnage of same being 195,856 net, and the stated damage $1,368,625, while 28 lives were lost. The remaining 39 casualties were to inland vessels, the tonnage of same being 27,075 net, the stated damage being $275,200.

In 137 casualties to coasting and sea-going vessels, and 26 casualties to inland vessels, the amount of damage is not stated; 55 of the casualties to coasting and sea-going vessels made up of 24 steam and 31 sailing vessels, resulted in total losses, and of this number 51 were Canadian, 1 British and 3 foreign vessels.

Ten of the casualties to inland vessels resulted in total losses, of which 8 were steam and 2 sailing vessels, 9 being Canadian and 1 foreign.

The casualties are given under the following headings:—

COASTING AND SEA-GOING VESSELS

Collisions	41
Founderings	18
Missing vessels	1
Miscellaneous accidents, fire, loss of sails, etc	53
Strandings	75

INLAND VESSELS

Collisions	6
Founderings	3
Miscellaneous accidents	7
Strandings	23

STATEMENT of investigations into wrecks and casualties which occurred to Canadian, British and foreign vessels, held during the fiscal year 1920-21

Name of ship and official number	Registered port	Remarks
Atikokan 131053	Port Arthur	On May 12 was stranded on Madam island, river St. Lawrence. Preliminary inquiry was held at Quebec, on May 00, 1920, by Commander H. St. G. Lindsay, R.D., R.N.R. Formal unnecessary.
Aspy 122885	Yarmouth, N.S	Charges were made that on August 13, Captain Urias York abandoned tug *Maggie M* and schooner in tow in position of extreme peril. Charges preferred by H. C. Corson of South Ingonish. Formal investigation was held at Sydney, N.S., by Commander H. St. G. Lindsay, R.D., R.N.R., on 16th of October, 1920. *Finding:* The evidence adduced did not bear out the charges preferred against Captain York.
B. X 126516	Victoria, B.C.	In September, 1919, stranded between Quesnel and Fort George, B.C., Preliminary inquiry held at Vancouver by Captain Charles Eddie on March 28, 1921. Formal recommended; but owing to difficulty in securing evidence, has not been held.
Canadian Voyageur 140957 Howard D. Troop 103264	Montreal St. John	On April 17, collided in bay of Fundy, resulting in sinking of *Howard D. Troop*. Formal investigation was held on April 22 and 23, 1920, before Captain J. B. Henry, assisted by Captain A. J. Mulcahy and Captain S. Orr, acting as assessors, at St. John, N.B. *Finding:* Both ships were held to blame. Masters cautioned.
Clare Hugo Stinnes I 143084	London	On September 30 stranded on shoals off Amet island, N.S. Formal investigation was held at Pictou, N.S., on October 14, 1920, by Commander H. St. G. Lindsay, R.D., R.N.R., assisted by Captain W. A. Beattie and Captain D. C. Fraser, as Nautical Assessors. *Finding:* Master R. H. Nesbitt, showed lack of judgment in not stopping his vessel and making sure of his position. He is severely censured.
Chama 120508	London	On October 21, stranded on Bellechasse islets, river St. Lawrence. Formal investigation was held on November 3, 1920, at Montreal, by Captain L. A. Demers, F.R.S.A., assisted by Captain C. J Stuart and Captain J. B. Henry, as Nautical Assessors. *Finding:* Second officer, Wm. Thos. Lane, was severely reprimanded for lack of realization of his responsibilities. Pilot Arthur Paquet's license suspended for six months, and is ordered to defray costs of investigation for having given a wrong order to port helm which he did not correct.
City of Colombo 128009	Liverpool	On March 20 stranded and lost sixteen miles west of Digby, Nova Scotia. Formal investigation was held at St. John, N.B., on March 28 and 29, 1921, by Captain L. A. Demers, F.R.S.A., Dominion Wreck Commissioner, assisted by Captain A. J. Mulcahy and Captain John Hall, as nautical assessors. *Finding:* Master J. J. Robertson found solely in default for failing to watch or instruct his officers to observe compasses; shaping a definite course on a departure obtained by a single sound of Pt. Lepreau fog-horn; to take into serious consideration unknown and unchecked error of log; in ignoring the existence of Direction Finding Station at Red head. Master's Board of Trade Certificate No. 006295 suspended for three months.
City of Vancouver 150255 Armeatieres	Vancouver	On February 2 collided at Esquimalt, B.C. A preliminary inquiry was held on March 24 at Esquimalt by Captain John D. Macpherson, Wreck Commissioner for British Columbia. Formal unnecessary.
Dunaff Head 136370 Eureka 93940	Belfast Quebec	On November 10, collided off Father Point, Que. Preliminary inquiry was held on November 24, 1920, at Montreal, by Captain L. A. Demers, F.R.S.A., Dominion Wreck Commissioner. *Finding:* Accident was inevitable under the circumstances. Formal unnecessary.
Dredging Plant and tow of tug Olive M		On February 17 the dredging plant in Victoria harbour was fouled by boom of logs in tow of tug *Olive M*. Preliminary inquiry was held on March 16, 1921, at Victoria, B.C., by Captain John D. Macpherson, Wreck Commissioner for British Columbia. Formal unnecessary. Accident unavoidable.
Georgie 146858	(French)	On October 21 stranded at Sillery, Quebec harbour. Formal investigation was held on October 28, 1920, at Montreal by Captain L. A. Demers, F.R.S.A., Dominion Wreck Commissioner, assisted by Captain C Lapierre and Captain J. B. Henry, as nautical assessors. *Finding:* Pilot J. B. Angers solely to blame for accident and found in default for hazardous navigation. He was ordered to defray costs of investigation and suspended for balance of season.
Hamonic 122553	Collingwood	On July 7, stranded five miles above Harbour Beach, Ontario. Formal investigation was held on July 21, 1920, at Sarnia, Ontario, before Captain L. A. Demers, F.R.S.A., Dominion Wreck Commissioner, assisted by Captain C. E. Millard and Captain W. A. Glass, as nautical assessors. *Finding:* Accident due to omission to exercise necessary caution. Master O. M. Wing suspended for two months. Second officer cautioned. Master's certificate No. 6939.
Henry B. Hall 138094 Montreal 116600	Montreal Montreal	On September 21, collided near Sorel, P.Q. Formal investigation was held October 14 and 15, 1920, at Montreal, before Captain L. A. Demers, F.R.S.A., Dominion Wreck Commissioner, assisted by Captain J. B. Henry and Captain Chas. Lapierre, as nautical assessors. *Finding:* Captain F. X. Lachance, of SS. *Montreal*, in default for contravention of rule 22, and is severely reprimanded. Pilot Oscar Perron of *H. B. Hall* was exonerated from blame.

STATEMENT of investigations into wrecks and casualties which occurred to Canadian, British and foreign vessels, held during the fiscal year 1920-21—*Continued*

Name of ship and official number	Registered port	Remarks
J. A. McKee 125442	Sault Ste. Marie	On August 26 stranded on Lark Reef, St. Lawrence river. Formal investigation was held September 13, 1920, at Montreal, before Captain L. A. Demer, F.R.S.A., Dominion Wreck Commissioner, assisted by Captain C. J. Stuart and Captain Chas. Lapierre, as nautical assessors. *Finding:* Master James Lintlop failed to exercise the judgment his responsibility demanded. His certificate, No. 3761, suspended for two months. Pilot Edmond Baquet's license suspended for remainder of season of 1920.
Kaduna 128029	Liverpool	On February 23 struck ledge off Fourchu, C.B. Preliminary inquiry was held at Louisburg on February 28, 1921, by Captain James Sutherland. Formal investigation was held on March 15, 1921, at Halifax, by Commander H. St. G. Lindsay, R.D., R.N.R., assisted by Captain C. L. Willett and Captain Neil Hall, as assessors. *Finding:* Vessel carried inshore by ice pressure to starboard, which, owing to weather conditions and darkness, was not perceivable by those in charge. The court was of opinion that had master been aware of non-existence of light on Fourchu Head the casualty would not have occurred. Master cautioned.
Merry Sea 130452	Vancouver	On March 29, 1920, damaged by fire in Burrard Inlet, B.C. Preliminary inquiry was held by Captain John D. Macpherson, on April 13, 1920, at Vancouver. Fire caused by the upsetting of a coal oil stove in the wheelhouse attributed to negligence and thoughtlessness of her master, Alfred Oliver Copp. Formal not necessary.
Manchester Division 135369	Manchester	On June 7 stranded in Quebec harbour. Preliminary inquiry was held on June 19 at Quebec, by Captain L. A. Demers, Dominion Wreck Commissioner. Formal investigation was held on June 24, at Montreal, by Captain J. B. Henry, assisted by Captain J. C. Caine and Captain C. J. Stuart, as nautical assessors. *Finding:* Casualty due to parting of hawser leading from the starboard bow of the steamer to the tug *Belle*. Master and pilot both exonerated from all blame.
Margaret Hackett 131016 Brookdale 137968 (in tow of SS. *Maplehurst*)	Montreal Montreal	On July 16 collided in Lake St. Peter. Formal investigation was held on July 23 and 30, 1920, at Montreal, by Captain L. A. Demers, F.R.S.A., Dominion Wreck Commissioner, assisted by Captain Chas. Lapierre and Captain C. J. Stuart, as nautical assessors. *Finding:* Mate, O. Portelance of tug *Margaret Hackett*, solely to blame for collision. His certificate No. 7584 was cancelled. Master of SS. *Maplehurst*, Kenneth La Rush, found in default for not carrying properly constructed lights and is severely reprimanded, and is also censured for not making more inquiries into the condition of his barge in tow *Brookdale* and tug *Margaret Hackett* after the collision.
Montcalm 117,069 Mapledene	Ottawa Montreal	On July 26 collided at Quebec. Formal investigation was held on August 5 at Quebec by Captain L. A. Demers, F.R.S.A., Dominion Wreck Commissioner, assisted by Captain Chas. Lapierre and Captain L. L. Morin, as nautical assessors. *Finding:* Tug *M. E. Hackett*,—which had SS. *Montcalm* in tow,—and SS. *Montcalm*, the latter to a lesser degree, responsible for the accident. The master of *M. E. Hackett*, Henry Paquet, and mate of *Montcalm* are cautioned to be more careful in future.
Manchester Division 135,769 Tunisian 111,248	Manchester Glasgow	On August 14 collided near Morin shoal, river St. Lawrence. Formal investigation was held on August 19, 20 and 24, 1920, at Montreal, before Captain L. A. Demers, F.R.S.A., Dominion Wreck Commissioner, assisted by Captain J. B. Henry and Captain M. H. Robertson, as assessors. *Finding:* Pilot August Santerre, of *Tunisian*, committed an excusable error of judgment. He is cautioned.
Metagama 136,191 Wisley 118,121	London London	On September 12, collided and *Metagama* stranded near Beauharnois island, river St. Lawrence. Formal investigation was held on September 16, 1921, at Montreal, by Captain L. A. Demers, F.R.S.A., Dominion Wreck Commissioner, assisted by Captain J. B. Henry and Captain C. J. Stuart, as assessors. *Finding:* Pilot Wilbrod Gauthier, of *Metagama*, committed excusable error of judgment.
Ontario No. 2 137,978	Montreal	On January 23 stranded four miles east of Cobourg. Preliminary inquiry was held at Cobourg on February 16, by Captain H. W. King. Formal investigation was held on March 17 and 18, at Cobourg, before Captain L. A. Demers, F.R.S.A., Dominion Wreck Commissioner, assisted by Captain J. B. Foote and Captain Geo. D. Frewer, as nautical assessors. *Finding:* Master F. D. Forrest, severely reprimanded and cautioned. First Officer, Walter Kirk's certificate No. 7635, suspended for three months, for neglect to reduce speed and not calling master when time for trip had about ended without sighting lights.
Prince Albert 99,584 Prince John 129,472	Prince Rupert Prince Rupert	On March 30, 1920, collided near Dead Tree point, Graham island, B.C. Formal investigation was held on May 6 and 7, 1920, at Vancouver, B.C., by Captain John D. Macpherson, Wreck Commissioner for British Columbia, assisted by Captain Gerald E. Bridge and Captain James R. Stewart, as nautical assessors. *Finding:* No one to blame, collision being an inevitable accident

STATEMENT of investigations into wrecks and casualties which occurred to Canadian, British and foreign vessels, held during the fiscal year 1920-21—*Continued*

Name of Ship and Official Number	Registered Port	Remarks
Picton..... 123,165	London.....	On June 8 struck Laurier pier, Montreal harbour. Formal investigation was held on June 12, 1920, before Captain L. A. Demers, F.R.S.A., Dominion Wreck Commissioner, assisted by Captain C. J. Stuart and Captain J. C. Cains, as assessors. *Finding:* Pilot Anthime Perreault erred in not exercising proper judgment. He is reprimanded and cautioned to be more careful in future. The court also cautioned master, Mathias Mathias, of SS. *Picton*, for having ordered the ship to leave her berth before everything was in order. Captain C. J Stuart, assessor, did not agree with part of the finding, viz.: exonerating the tugs towing the ship.
Perreault, Pilot Alexis..... (Montreal District)		Charged with inebriety while on duty on SS. *Canadian Miner* June 23 and 24, 1920, and at Quebec. Formal investigation was held on July 6 at Quebec, and July 14 at Montreal, by Captain L. A. Demers, F.R.S.A., Dominion Wreck Commissioner. *Finding:* Considering the past satisfactory record of Pilot Alexis Perreault the court only suspends his license from June 24 to the end of season of navigation of 1920.
Edward Pyke..... 76,556	Liverpool.....	On September 5, stranded below Sillery wharf, Quebec harbour, whilst towing sailing vessel *Grand Duchess Maria Nicolaevna*. Formal investigation was held on October 7 at Quebec before Captain L. A. Demers, F.R.S.A., Dominion Wreck Commissioner, assisted by Captain Chas. Lapierre and Captain J. Couette, as assessors. *Finding:* Both master, Axel Larsen, and Pilot Arthur Arcand, failed to exercise prudence. Master ordered to pay costs of investigation. Pilot was fined $150. Pilot Edward Devilliers, of sailing vessel, was severely reprimanded and cautioned to be more careful in future.
Prince Rupert.... 129,743	New-Castle.....	On September 29 stranded at Swanson bay, B.C. Formal investigation was held on November 15, 17 and 18, 1920, at Vancouver, by Captain John D. Macpherson, Wreck Commissioner for British Columbia, assisted by Captain John Park and Captain G. E. Bridge, as nautical assessors. *Finding:* Both master and mate found in default. Captain Duncan Mackenzie's master's certificate 3667, suspended for four months; mate, R. Mackenzie'a certificate, No. 7055, suspended for two months.
Princess Royal..... 121,968 Charmer..... 100,793	Victoria ..... Victoria.	On October 18 collided at entrance to Victoria harbour. Formal investigation was held December 9 and 10, at Victoria, B.C., before Captain John D. Macpherson, Wreck Commissioner for British Columbia, assisted by Captain F. W. Evans and Captain G. E. Bridge, as nautical assessors. *Finding:* Master of *Charmer*, Charles Campbell, to blame for collision. His certificate, No. 2196, is suspended for one year and he is ordered to pay the costs of the investigation.
Princess Royal..... 121,988 Marmion..... 102,622 Louisiana (in tow)..... 141,556	Victoria..... Vancouver..... Vancouver.....	On November 6, collided in Grenville channel. Formal investigation was held on December 1, 2 and 3, 1920, at Vancouver, B.C., by Captain John D. Macpherson, Wreck Commissioner for British Columbia, assisted by Captain F. W. Evans and Captain A. P. W. Williamson, as nautical assessors. *Finding:* Blame for collision imputed to Thomas Rippon, master of SS. *Princess Royal*, for failing to comply with rules of road. Art. 16. He is warned to be more careful and prudent in future.
Princess Beatrice..... 116,405	Victoria	On February 10 stranded on Jedekiah island, B.C. Formal investigation was held on March 8 and 9, 1921, at Vancouver, by Captain John D. Macpherson, Wreck Commissioner for British Columbia, assisted by Captain F. W. Evans and Captain A. P. W. Williamson, as nautical assessors. *Finding:* Casualty due to inexcusable negligence and inattention to duties of first officer, F. R. Springhall' who was in charge of watch at time of stranding. His certificate, No. 5539, is suspended for three months. Leniency shown owing to long and good record.
Quebec..... 122,405	Montreal.....	On June 3, 1920, stranded at Three Rivers, P.Q. Formal investigation held on June 21 at Montreal by Captain L. A. Demers, F.R.S.A., Dominion Wreck Commissioner, assisted by Captain Chas. Lapierre and Captain C. J. Stuart, as nautical assessors. *Finding:* Pilot Edward Gauvreau, unlicensed, erred through over-confidence in his course and is found in default for not having taken a cast of the lead occasionally. First officer showed lack of knowledge as to his duties whilst in charge. He is severely reprimanded and cautioned to exercise better judgment in future.
Romsdalefjord	Christiania.....	On December 10 stranded off Sambro, N.S. Formal investigation was held on December 14, 1920, at Halifax, by Commander W. St. G. Lindsay, R.D., R.N.R., assisted by Captain Neil Hall and Captain J. D. MacKenzie, as nautical assessors. *Finding:* Master, Harry Pay, found guilty of culpable negligence in not taking proper precautions when approaching land at night. Copy of finding forwarded to Norwegian Government.
Roamer..... 141,353	Ottawa.....	On November 8 burnt and partially damaged in Quebec harbour. A preliminary inquiry was held on December 14 and January 19, at Quebec, by Captain L. A. Demers, F.R.S.A., Dominion Wreck Commissioner. *Finding:* Responsibility for casualty divided on repair men who failed to prevent a possible leakage of gas, and on master for permitting work to be performed under such conditions.

STATEMENT of investigations into wrecks and casualties which occurred to Canadian, British and foreign vessels, held during the fiscal year 1920-21—*Concluded*

Name of Ship and Official Number	Registered Port	Remarks
South American..... 141,857	Montreal.....	On November 18 stranded at Petit Cap, river St. Lawrence. Preliminary inquiry was held November 30, 1920, by Commander H. St. G. Lindsay, R.D., R.N.R. Formal investigation was held on January 6, 1921, at Halifax, by Captain L. A. Demers, F.R.S.A., Dominion Wreck Commissioner, assisted by Captain Neil Hall and Captain C. Hunter, as nautical assessors. *Finding:* Master, William Fraser, failed to give peremptory orders before he went below, as to taking casts of the lead and being called if necessary. His certificate was not dealt with on account of his straightforward statement and good work in taking his ship off and into port safely; but is severely reprimanded and warned to be more careful in future.
Sussex..... 112,686	London..	On December 31 stranded in St. John harbour. Formal investigation was held at St. John on January 14, 1921, by Captain W. R. Bennett, assisted by J. C. Chesley and F. W. McKelvey. *Finding:* Casualty due to error of judgment of Pilot G. W. Miller in not making sufficient allowance for wind and current and in not giving the ship more way astern by working engines full speed astern.
Tuscarora.. (American Coast guard Light Cruiser)	American. .. .	On August 31 stranded at White island. Formal investigation was held at Quebec on September 7, 1920, by Captain L. A. Demers, F.R.S.A., Dominion Wreck Commissioner, assisted by Captain Chas. Lapierre and Captain J. Couette, as nautical assessors. *Finding.* Pilot Ernest Pouliot erred in judgment in not making sufficient allowance for the strong ebb tide. He was ordered to pay the costs of investigation, $150. The vessel being American copy of finding was referred to United States Government.

STATEMENT of wrecks and casualties reported as having occurred to British, Canadian and foreign vessels in Canadian waters and to Canadian vessels in other waters, from January 1 to December 31, 1920

COASTING AND SEA-GOING WRECKS.

Date of Casualty	Name of Ship Official No.	Age of Ship Years	Registered Port	How rigged Iron or wood Steam or sail	Register Tonnage	Port sailed from Port bound to	Place where Casualty happened	Particulars of Casualty Name of Master	Lives lost	Loss Total or Partial
Jan. 14....	America..... 132484	31	Montego Bay, Jamaica	Schr..... Steel. Steam.	588	Halifax..... Bermuda.	82 miles SSW. of Sambro, Nova Scotia.	Sprung a leak..... F. W. McBride.	.....	Part.
Jan. 24....	Alcodo..... 122650	14	Vancouver.....	Tug..... Wood. Steam.	48	Vancouver ..... Hornby Is.	Welcome Pt., B.C. ...	Stranded ..... F. J. Lewis.	.....	Part, $1,000.
Feb. 13....	A. M. No. 5..... 121710	18	Vancouver.....	Barge. ..... Wood.	104	Vancouver ..... Vancouver.	Near Brockton Pt. light	Collision with SS. *Charmer*.	.....	Part.
Mar. 10....	Albatross..... (Portugal).	2	(Portugal).....	Sloop ..... Wood. Steam.	80	Halifax ..... Portugal.	Near Egg Is., Nova Scotia.	Stranded ..... Jose S. Marcos.	.....	Total: Ship, $35,000. Cargo, $2,000
Mar. 18....	Anna Sophie.....	.....	Norway.....	Steam.....	.....	Cette, France.. ..... via Algiers.	.....	Arrived at Louisburg, N.S., with tanks leaking.	.....	Part
April 25...	Attainment..... 140081	3	St. John's, Nfld.....	Schr..... Wood. Sail.	318	St. John's..... Parrsboro.	Bear Cove, Long Island, Bay of Fundy.	Stranded..... R. Sheppard.	.....	Total.
April 25...	Avon Queen..... 141071	1	Windsor, N.S.....	Schr..... Wood. Sail.	939	Jacksonville ..... Havana.	Havana harbour.....	Collision with ferry boat	.....	Part.
May 2...	Alodo..... 217537	1	New York.....	Schr..... Steel. Steam.	3,728	Antwerp..... Montreal.	50 miles N. of Magdalen Is.	Damaged by ice ..... C. Fournier.	.....	Part.
May 12...	Atikokan..... 131053	25	Port Arthur..... ...	Steam.....	1,292	Madam Is. ..... R. St. Lawrence.	Stranded on Madam Island.	Stranded.....	.....	Part.
May.....	Arthur H. Swicker.... 141046	2	Lunenburg..... ..	Schr..... Wood. Sail.	507	Ingramport..... Queenstown.	Halifax, N.S.....	Sprung a leak	.....	Part.
July 2...	Alma L. Young..... 122090	42	Charlottetown.....	Schr..... Wood. Sail.	35	Pictou, N.S ..... Crapaud, P.E.I.	Tryon Shoal, P.E.I ...	Stranded ..... Jas Jainor.	.....	Total, $600.
July 19...	Annie Girl.....	49	Eastport, Me.....	Schr ..... Wood. Sail.	94	Greenport, N.Y..... Norfolk, Va.	22 miles NE. Delaware Breakwater, N. Atlantic	Damaged in gale. ..... L. E. Raye.	.....	Part, $1,500.
Aug. 15...	Alcedo. 122650	14	Vancouver.....	Tug ..... Wood. Steam.	48	Vancouver ..... Vancouver.	1 mile E. of Pt. Atkinson, Vancouver, B.C.	Collision with *Tundarcus* John A. Seely.	.....	Part, $7,000.
Nov. 20...	Augusta Evelyn..... 107,603	20	Yarmouth.....	Schr ..... Wood. Sail.	30·57	Clarks Har ..... Clarks Har.	Lat. 45° N ..... Long. 61° W. S. Coast of Nova Scotia.	Stranded ..... J. Duncan.	.....	Total.

STATEMENT of wrecks and casualties reported as having occurred to British, Canadian and foreign vessels in Canadian waters and to Canadian vessels in other waters, from January 1 to December 31, 1920—*Continued*

COASTING AND SEA-GOING WRECKS

Date of Casualty	Name of Ship Official No.	Age of Ship Years	Registered Port	How rigged Iron or wood Steam or sail	Register Tonnage	Port sailed from Port bound to	Place where Casualty happened	Particulars of Casualty Name of Master	Lives lost	Loss Total or Partial
Dec. 8...	Annie B. Anderson.... 138474	3	Parrsboro.....	Schr..... Wood. Sail.	406	Alicante Sp..... Havana.	Virgin Is. Group.....	Stranded..... E. H. Kirby.	.....	Total
Dec. 28...	Arlie.....	4	Tacoma, U.S.....	Schr..... Wood. Gas.	29	Ketchikan..... Tacoma.	Arthur Passage, Harbert reef, B.C.	Stranded..... I. Stammes.	.....	Part.
Jan. 18...	Buffalo Bridge..... 218821	3 mos.	New York.....	F. & A..... Steel. Steam.	2,174	Lisbon..... New York.	Lat. 41° 40′ N..... Long. 50° 05′ W. N. Atlantic.	Loss of propeller blades. J. F. Kruger.	.....	Part.
Mar. 1...	Bohemian..... 113400	19	Liverpool.....	Schr..... Steel. Steam.	5,544	Boston..... Liverpool.	Off Sambro Is., Nova Scotia.	Stranded..... E. C. Hiscoe.	6	Total.
Mar. 25...	Bessie A. White..... 141,266	1	Parrsboro.....	Schr..... Wood. Sail.	895	St. John, N.B..... Yarmouth, N.S.	At mouth of Yarmouth harbour.	Stranded..... L. T. Merrian.	.....	Part.
May 19...	Bay Queen..... 97188	28	Barrington.....	Schr..... Wood. Sail.	32	Shelburne..... Halifax.	Near Cape LaHave.....	Foundered..... Nickerson.	.....	Total.
June 19...	Bitebe.....	1	LaHavre.....	Wood..... Steam.	660	Quebec.....	Quebec harbour.....	Collided with wharf... Charles Sautrel.	.....	Part.
June 22...	Blake..... 111724	16	Charlottetown.....	Schr..... Wood. Sail.	99	Richards Har., N.Y.... St. Pierre, Miquelon.	Boston Bay..... N. Atlantic.	Sprung a leak..... E. Young.	.....	Part.
July 16...	Brookdale..... 137968	32	Montreal.....	Barge..... Wood. Gas.	1,665	Montreal..... Port aux Quilles.	Buoy L. 25..... L. St. Peter.	Collided with *Margaret Hackett*. A. DeRepentigny.	.....	Part.
Aug. 22...	Benjamin A. Smith...	12	Gloucester, Mass.....	Schr ..... Wood. Gas.	75	Gloucester..... Fishing.	Gull Rock, N.S.....	Stranded..... J. S. Thomas.	.....	Part, $3,000..
Sept. 26...	Beryl..... 140,929	19	Ottawa.....	Tug ..... Steel. Steam.	23	Nitinat..... Nitinat, B.C.	Lat. 48° 39′ N..... Long. 124° 52′ W. Vancouver Is.	Foundered ..... E. A. Freeman.	.....	Total.
Nov. 13...	Ballena..... 100,635	28	Vancouver.....	Schr..... Wood. Steam.	544	Vancouver..... Squamish.	Vancouver harbour.....	Burnt..... J. A. Gates.	.....	Total.
Jan. 12...	Canadian Spinner..... 141,481	1	Montreal.....	Schr..... Steel. Steam.	3,330	Montreal..... Halifax.	River and Gulf of St. Lawrence.	Damaged in ice..... J. M. Reith.	.....	Part.
Jan. 13...	Cape Nord..... 141210	1½	Vancouver.....	Schr..... Wood.	1,185	Cardiff..... Gibraltar.	Off Rabat..... N. Atlantic.	Engine piston broken.... J. B. Ritchie.	.....	Part.

Jan. 21...	Cassandra 124130	14	Glasgow	F. & A. Iron. Steam.	5,221	Glasgow Halifax.	Halifax harbour	Collison with *F. W. Roebling.* R. C. Brown.	Part.
Feb. 13...	Charmer 100793	34	Victoria	Iron Stream.	497	Vancouver Nanaimo.	Near Brockton Pt., Vancouver harbour.	Collision with *A.M. No. 5.* W. J. Boyce.	
Mar. 7...	Cape Breton 97808	30	Montreal	Schr. Iron. Steam.	1,109	Halifax Louisburg.	SE. Pt. Scatarie Is.	Stranded J. A. Willet.	Total.
Mar. 20...	City of Lund 126515	11	Vancouver	Schr Wood. Steam.	34	Lund, B.C. Campbell River.	Duncan bay, B.C.	Collision with *Admiral Evans.* H. Henderson.	Total.
July 6...	Charles A. Ritcey 138555	3	Lunenburg	Schr. Wood. Sail.	360	New York Las Palmas.	Lat. 37° 33′ N. Long. 66° 29′ W.N. Atlantic.	Damaged in gale Oden Acker.	Part.
Mar. 27...	Clansman 107,711	21	Vancouver	Wood Steam.	49	Vancouver Vancouver.	Vancouver Harbour	Stranded W. H. Lloyd.	Part: Ship, $2,000. Cargo, $2,000.
April 3...	Cap Verte 141220	1	Vancouver	Schr. Wood. Motor.	1,173	Hull Bristol.	Off Cross Sand light	Collision with *Hesleyside.* Geo. W. Horton.	Part.
April 16..	Celeste 141,572	1	Weymouth	Schr. Wood. Sail.	595	Pensacola Havana.	Havana harbour	Collision with *Kannebec.* Z. H. Richard.	Part, $1,000.
June 6...	Cuba 71153	45	Montreal	Barge. Wood. Sail.	386	Port au Saumon Ogdensburg.	2 miles below Berthier en bas, River St. Lawrence.	Foundered Geo. Leboeuf.	Total.
June 23...	Canadian Miner 141598	1	Montreal	Steel. Steam.	1,043	Montreal Charlottetown.	Off Batiscan River St. Lawrence.	Stranded Megregor Fraser.	Part.
Aug. 16...	Cavalier 200899	16	Gloucester, Mass.	Schr. Wood. Sail.	96	Gloucester Gloucester.	Off Lockeport, Nova Scotia.	Stranded Robert Porper.	Part. $15,000.
Aug. 20..	Centreville 100,549	24	Digby, N.S.	Wood Steam.	32	Parrsboro Pubnico.	West End Digby Gut, N.S.	Stranded H. F. Amero.	Slight.
Sept. 7...	Cap Nord 141191	2	Vancouver	F. & A. Wood. Aux.	1,184	New York Bristol.	Lat. 40° 10′ N. Long. 60° 30′ W. N. Atlantic.	Damaged in gale W. P. Evans.	Part.
Sept. 13...	Charles A. Ritcey 138555	3	Lunenburg	Schr. Wood. Sail.	360	Lunenburg Lunenburg	Rose Head Lunenburg, N.S.	Stranded 1 O. Acker	Total, $50,000
Oct. 4....	Canadian Drifter No. 54.	3	Quebec	Schr. Wood.	100	Halifax Inverness, Scot.	Lat. 46° 4′ N. Long. 33° 51′ W. N. Atlantic.	Foundered A. W. Park.	Total.
Oct. 9...	Cumberland Queen 141514	1	Parrsboro	Schr. Wood.	634	Preston Jacksonville	5 miles WNW. of Skerries.	Collided with *Sliere Galien.* R. H. Burgess.	Part.
Oct. 18...	Charmer 100793	33	Victoria	Schr. Steel. Steam.	496	Vancouver Victoria.	Outside Victoria Harbour.	Collision with *Princess Royal.* Charles Campbell.	Slight.
Oct. 21..	Chama 120508	15	London	Schr. Steel. Steam.	1,977	Montreal West Africa.	Bellechasse Is River St. Lawrence.	Stranded A. D. Burroughs.	Part. $200,000.
Oct. 28...	Chinampa 212766	17	New York	Schr Steel. Steam.	4,533	Tuxpan Montreal.	Montreal harbour	Stranded E. W. Miller.	Part.
Nov. 8...	Clansman 107711	21	Vancouver	Wood Steam.	49	Vancouver Vancouver.	Vancouver harbour	Stranded R. W. H. Lloyd.	Part: Ship, $1,000. Cargo, $2,000
Oct. 30...	Clare Hugo Stinnes 1 148084	10	London	Schr. Steel. Steam.	3,090	Miramichi Pictou.	Amet Island, N.S	Stranded B. H. Nesbitt.	Part..

STATEMENT of wrecks and casualties reported as having occurred to British, Canadian and foreign vessels in Canadian waters and to Canadian vessels in other waters, from January 1 to December 31, 1920—*Continued*

COASTING AND SEA-GOING WRECKS.

Date of Casualty	Name of Ship Official No.	Age of Ship Years	Registered Port	How rigged Iron or wood Steam or sail	Register Tonnage	Port sailed from Port bound to	Place where Casualty happened	Particulars of Casualty Name of Master	Lives lost	Loss Total or Partial
Nov. 11	Canadian Gunner 141478	1	Montreal	Schr. Steel. Steam.	1,451	Demerara Barbadoes.	Lat. 8° 46′ N Long. 58° 78′ W. N. Atlantic.	Propellor shaft and pump broken. Charles Wallace.		Part.
Nov. 27	Canadian Seigneur 141368	1	Montreal	Schr Steel. Steam.	3,551	Montreal S. America.	Curve I, Lake St. Peter	Stranded. J. E. Faulkner.		Part.
Dec. 12	C. F. Co. No. 2. 133725	8	Vancouver	Scow Wood. Sail.	87	Barclay Sound Vancouver.	1 mile E. of Cape Beale	Stranded		Total.
Jan. 29	Doris & Rita 140879	3 mos.	Liverpool, N.S.	Schr Wood. Gas.	110	Liverpool Oporto.	Lat. 39° 05′ N Long. 22° 03′ W. N. Atlantic.	Abandoned C. B. Mason.		Total.
Feb. 11	Douglas Adams 116540	14	Halifax	Schr. Wood. Sail.	99	Twillingate St. John's, Nfld.	Atlantic ocean	Damaged in gale N. Goss.		Part.
Feb. 11	Dianthus 77607	12	Liverpool, N.S.	Schr. Wood. Gas.	33	Vessel laid up	Halifax harbour	Wreck in gale		otal, $500.
Oct. 4	Dart 59470	49	Pictou	Schr Wood. Sail.	41	Charlottetown Port Hastings.	Hillsboro bay, Northumberland.	Stranded St. S. Cain.		Total, $1,200.
Nov. 8	Drifter C.D. 37		Levis	Schr Wood. Steam.	100	Queenstown Inverness, Scot.	Lough Foyle	Stranded A. C. Liddle.		Part.
Nov. 23	Douglas Adams 116540	14	Halifax	Schr Wood. Sail.	99	Twillingate Twillingate, Nfld.	Lat. 41° 10′ N Long. 27° 08′ W. N. Atlantic.	Sprung a leak Nathaniel Goss.		Part.
July 3	Edgewood 140956	2	Montreal	Schr. Wood. Sail.	699	Barbadoes New York.	Lat. 17° 17′ N Long. 60° 22′ W. N. Atlantic.	Sprung a leak Charles Richter.		Part.
June 18	Eva A. Davenhower 138598	38	St. John, N.B.	Schr. Wood. Sail.	199	Apple River New York.	N. entrance Cape Cod canal.	Stranded Abner Neaves.		Total.
Oct. 29	Etta White 64154	40	Vancouver	Tug Wood. Steam.	76	Ocean Falls "	Fraser Reach channel, B.C.	Burnt R. F. Armstrong.		Total.
Dec. 3	Emilien Burke 122584	11	Charlottetown	Schr. Wood. Sail.	90	Curling, Bay of Islands, Halifax.	Near Pt. au Mal Port au Port Bay, Newfoundland.	Stranded Edward Seeley.		Total, $6,000.
Jan. 1	Francis Gardner 138553	2	Lunenburg	Schr. Wood. Sail.	98	Lunenburg Lisbon.	Lat. 43° 09′ N Long. 55° 01′ W. N. Atlantic.	Foundered Fenton Shankle.		Total, $30,000.

Jan.	0..	Flora L. Oliver..... 209517	8	Gloucester	Schr ..... Wood. Gas.	59	Gloucester .. ... Fishing.	Liverpool, N.S.....	Stranded..... A. M. Brown.	.....	Part, $10,000.
Jan.	21..	F. W. Roebling. 113782	30	Halifax.....	Tug ... . Wood. Steam.	78	Halifax harbour. . .	.. ..	Collision with SS. *Cassandra*. T. Ormiston.	. .....	Part.
April	13..	Fannie Belle Atwood..	17	Boston	Schr ..... Wood. Motor.	81	Boston . .. . Fishing.	Liverpool harbour.	Stranded..... Douglas Malone.	.....	Part, $6,000.
Oct.	..	Francis Willard 111401	21	Lunenburg.....	Schr..... Wood. Steam.	85	Carboneau, Nfld ..... Cartwright, Lab.	Hare Island rock, Sandwich bay, Lab.	Stranded..... George Carter.	.....	Total, $8,000.
Jan.	2..	G. H. Murray 141229	3 mos.	Weymouth	Schr..... Wood. Sail.	354	Sandomingo..... "	Colorada reef, N. coast of Cuba.	Stranded..... Thos. J. Boudrod.	.....	Total: Ship, $64,000. Cargo, $25,000
Jan.	14..	General Morrison..... 140995	1	Toronto	Schr. ..... Steel. Steam.	1,518	New York..... ..... London.	Regent Dry Dock, London.	Collided with *Bazalgette* Dan. Maquire.	.....	Part.
Jan.	16 .	Geraldine Wolvin..... 138354	2	Vancouver	Schr..... Wood. Gas.	1,259	Nantes... ..... Cardiff.	Off Ste. Nazaire.	Bobstays and stem damaged by anchor cable. H. C. Robinson.	.....	Part.
Jan.	17	Geraldine Wolvin 138354	2	Vancouver.	Schr ..... Wood. Gas.	1,259	Nantes .... Cardiff.	Between Nash Point Breakseа.	Collision with *Vilma*.. H. C. Robinson.	.....	Part.
Jan.	18	General Currie. . 140993	1	Halifax.	Schr . . Steel. Steam.	1,518	Antwerp	8 miles SE. of Wolf rock.	Propeller broken..... George Williams.	.....	Part.
April	11..	Gordon T. Tibbo ... 140871	1	Liverpool	Schr .... Wood. Sail.	154	Marystown..... ... Oporto.	Lat. 41° 15′ N .... Long. 31° 30′ W. N. Atlantic.	Damaged in gale..... James Belben.	.....	Part: Ship, $2,500. Cargo, $1,700.
April	20 .	Geraldine Wolvin..... 138354	2	Vancouver.... .	Schr ..... Wood. Gas.	1,259	Cardiff..... . ..... Port Talbot, S. Wales.	Off Flat Holme island, Bristol channel.	Lost two anchors..... John Hughes.	.....	Part.
June	11 .	General Currie 140993	1	Halifax	Schr . . .. Steel. Steam.	1,518	Liverpool..... ..... New Orleans.	Lat. 22° 2′ N..... .. .. Long. 79° 53′ W. N. Atlantic.	Stranded..... John Hamilton.	.....	Part.
July	22..	Giffen.. 141211	7	Vancouver..	Wood..... Gas.	1,3	Prince Rupert..... Fishing.	Hecate straits.....	Burnt..... Henry Stolan.	.....	Total: Ship, $12 000 Cargo, $2,000.
Oct.	21	Georgie.... 58916	7	Havre, France.	Schr.. ..... Steel. Steam.	4,224	Havre..... Montreal.	3 miles above Quebec...	Stranded..... Maurice Lepetre.	.....	Part.
Oct.	7..	G. R. Crowe... 123324	13	Toronto..... . . .	Schr..... Steel. Steam.	2,374	Port Lobas..... . ... New York.	Shewans' Yard, Brooklyn.	Burnt ..... R. J. Green.	5	Total.
Dec.	8..	Gabriella..... 13960	13	Boulogne... .. .	Trawler.... Steel. Steam.	285	St. Pierre..... Sydney.	Livingstone shoal, Sydney harbour.	Stranded.....	.....	Total.
Mar.	6 .	Henrik Lund.....	14	Bergen, Norway	Schr. ..... Steel. Steam.	3,533	Cherbourg..... . .. Louisburg.	Halifax harbour.....	Stranded. ..... J. Steffensen.	.....	Part, $10,000.
April	17.	Howard D. Troop.... 103264	24	St. John	Schr.... ... Wood. Sail.	69	St. John .... Cruising.	Petit passage, Bay of Fundy.	Collision with *Canadian Voyageur*. F. N. McKelvey.	.....	Total, $15,000.
May	10..	Henry B. Hall 138094	39	Montreal	Wood ..... Steam.	618	Quebec..... St. David.	At St. David, River St. Lawrence.	Stranded..... Art. Lalonde.	.....	Part, $5,000.
July	9..	Harold Conrad..... 141635	1	La Have	Schr ..... Wood. Sail.	116	Lunenburg..... Fishing.	66 miles S. by W. from Cape Royal. N. Atlantic.	Collision with *Lady St. Johns*. T. Coarad.	.....	Part.

STATEMENT of wrecks and casualties reported as having occurred to British, Canadian and foreign vessels in Canadian waters and to Canadian vessels in other waters, from January 1 to December 31, 1920—*Continued*

COASTING AND SEA-GOING WRECKS

Date of Casualty	Name of Ship Official No.	Age of Ship Years	Registered Port	How rigged Iron or wood Steam or sail	Register Tonnage	Port sailed from Port bound to	Place where Casualty happened	Particulars of Casualty Name of Master	Lives lost	Loss Total or Partial
Oct. 20	Henry B. Hall 138094	39	Montreal	Wood Steam.	628	Erie, Pa Levis.	Off Sorel, River St. Lawrence.	Collision with SS. *Montreal*. Art. Lalonde.		Part.
Mar. 6	Island Princess 138784	7	Victoria	Wood Steam.	203	Victoria S. Pender island.	Pender canal	Stranded W. J. Boyce.		Part.
Mar. 26	Impoco 135236	7	Sarnia	Schr. Steel. Steam.	1,382	New York "	Lat. 43° 45′ N Long. 38° 50′ W. N. Atlantic.	Damaged in gale W. G. Tudor.		Part.
Dec. 17	Impressive 138618	2	La Have	Schr. Wood. Sail.	341	Riverport St. Thomas, Virgin islands.	Little Bahama Bank, West Indies.	Stranded G. Corkum.		Total, $65,000.
Mar. 10	Jutland 141285	1	La Have	Wood. Gas.	136	Halifax Western Bank.	North Atlantic	Missing M. Johnson.	21	Total, $210,000.
May 22	John M. Wood 141059	1	Lunenburg	Schr. Wood. Sail.	273	Lunenburg St. John's, Nfld.	14 miles SE. of Little Hope island, N. Atlantic.	Collision with *Lake Elsah* St. Clair Gildert.		Total: Ship, $65,000. Cargo, $60,000.
July 14	John F. Morrow 141758	30	Montreal	Steel Steam.	1,154	Little Saguenay Ogdensburg.	Lark reef, River St. Lawrence.	Stranded. R. Chatel.		Part.
Aug. 26	J. A. McKee 125442	12	Sault Ste. Marie	Schr. Steel. Steam.	1,375	Levis "	Lark reef, River St. Lawrence.	Stranded James Lintlop.		Part.
Oct. 12	James Carruthers 134748	8	Grimsby, England	Ketch Steel. Steam.	97	Prince Rupert Ketchikan.	Off White Sand island, B.C.	Collision with *Surveyor* T. Parsons.		Part.
Jan. 11	King Josiah 125965	11	Parrsboro	Schr. Wood. Sail.	170	Bordeaux Martinique.	River Gironde, France	Collision with *Tout* W. L. Anderson.		Part.
Jan. 28	Kenora 124235	13	Toronto	Schr. Steel. Steam.	1,275	Tyne Dock Cork, Ireland.	100 miles S. of Queenstown.	Condenser burst T. M. Jefferson.		Part.
Dec. 5	K. N. No. 2 138300	5	Vancouver	Scow Wood.	474	Vancouver Powell River.	Trial island, Straits of Georgia.	Foundered Chas. Rush.		Total: Ship, $10,000. Cargo, $45,000.
Feb. 27	Lavita 130549	11	Vancouver	Sloop Wood. Gas.	8	Vancouver Howe Sound.	Anvil Island, Howe Sound.	Stranded W. Tickle.		Total, $800.
Mar. 7	Lake Ellsthorpe 219019	1	Detroit	Steel Steam.	1,658	Fowie, G.B. Portland.	Lat. 41° 30′ N. Long. 60° 30′ W. N. Atlantic.	Damaged in gale L. W. Webb.		Part.
Mar. 30	Lansdowne 90604	35	Ottawa	Wood Steam.	463	Halifax Manchester.	Lat. 41° 49′ N Long. 58° 52′ W. N. Atlantic.	Sprang a leak Wm. A. Beattie.		Part.

July	5	Lake Elwin		American	Steel. Steam.	1,658	Ecosse, Mch New York.	Gabarus rock, Nova Scotia.	Stranded J. M. Beresley.	Total.
Oct.	1	L'Eboulement 138512	3	Quebec	Schr. Wood. Sail.	82	Quebec River St. Marguerite.	6 miles off River du Loup	Collision with *LaMouelle* James Tremblay.	Part, $1,200.
Oct.	20	Livingstone		Tacoma, Wash.	Schr Wood. Gas.	25	Prince Rupert Ketchikan.	Prince Rupert harbour	Foundered	Part, $500.
Nov.	6	Louisiana 141556	47	Vancouver	Barge Wood. Steam.	1,309	Anyox, B.C Ladysmith.	Granville channel, B.C.	Collision with *Princess Royal.* B. M. Jorgensen.	Part, $2,975.
Dec.	12	Lloyd George 126821	10	Lunenburg	Schr. Wood. Sail.	99	Lunenburg Ponce, Porto Rico.	Anegada reef, Virgin islands.	Foundered Chas. Conrad.	Total: Ship, $9,000. Cargo, $18,000.
Jan.	28	Mabel Stewart 138684	3	Vancouver	Schr. Wood. Steam.	1,272	Cardiff Bordeaux.	Off Scilly islands.	Damaged in gale T. Chernside.	Part.
Jan.	13	Myrtle Piercey 140876	8 mos.	Liverpool, N.S.	Schr. Wood. Sail.	149	Hermitage Cove, Nfld. Oporto.	St. Pierre, Miquelon	Stranded Isaac Thornhill.	Slight.
Mar.	6	Marinn W. 134145	30	Montreal	Wood. Steam.	959		Louise basin, Quebec	Burnt	Total.
Mar.	8	Mark H. Grayu 138260	3	Lunenburg	Schr. Wood. Sail.	98	Burin, Nfld. Gibraltar.	Lat. 38° 0′ N. Long. 18° 0′ W. N. Atlantic.	Damaged in gale Louis Rowe.	Part, $2,250.
Mar.	10	Maid of Lahave 141386	1	Lahave, N.S.	Schr. Wood. Sail.	223	Lahave, N.S. Bahia.	Lat. 41° 0′ N. Long. 60° 21′ W. N. Atlantic.	Foundered L. Hayes.	Total.: Ship, $50,000. Cargo, $62,000.
Mar.	29	Merry Sea 130452	9	Vancouver	Wood Gas.	17	Vancouver On patrol.	W. by S. 1 mile from Prospect point, English bay.	Damaged by fire W. O. Copp.	Part.
April	13	Maid of Canada 141137	1	Lahave, N.S.	Schr. Wood. Sail.	318	New Orleans Oporto.	Luxver harbour, Portugal	Collided with break-water. J. B. Wilkie.	Part, $10,800.
June	7	Manchester Division. 135369	1	Manchester	F. & A. Steel. Steam.	3,774	Manchester Quebec.	Quebec harbour	Stranded P. Linton.	Slight.
July	8	Margaret 122123	13	Halifax	Wood Steam.	100	Halifax Ship Harbour.	Friars Breakers, off Owl's head.	Stranded Ralph Munro.	Part, $1,500.
July	16	Margaret A. Hackett 131016	8	Montreal	Wood Steam.	83	Quebec Montreal.	Buoy L 25, lake St. Peter	Collision with *Brookdale* M. Allison.	Part, $15,000.
July	24	Margaret Haney 138353	3	Vancouver	Schr. Wood. Gas.	800	Kotka Ostend.	20 miles N-NW. Dagerort, N. Baltic.	Damaged by fire Thos. Chernside.	Part.
July	27	M. J. Parks 141384	1	Lahave, N.S	Schr Wood. Sail.	117	Lahave, N.S Fishing.	2 miles E. of Aquafort, Nfld.	Stranded Arnold Parks.	Total, $57,000.
Aug.	13	Montara 80808	39	New York	Schr Iron. Steam.	1,695	Philadelphia Louisburg.	Off Louisburg	Stranded W. G. Bang.	Total.
Aug.	14	Manchester Division. 135369	2	Manchester	Steel Steam.	3,774	Manchester. Quebec.	Off Morin shoal, River St. Lawrence.	Collision with *Tunisian* P. Linton.	Partial.
Aug.	19	Manoa 215631	8	Duluth, Minn	Steel Steam.	2,880	Quebec Montreal.	Cape Charles, River St. Lawrence.	Stranded B. H. Morehouse.	Partial, $60,000
Aug.	30	Maid of Brazil 138801	2	Weymouth, N.S	Schr Wood. Sail.	387	New Campbellton Rotterdam.	35 miles S-SW. Stark point.	Damaged by fire H. Christian.	Partial.

STATEMENT of wrecks and casualties reported as having occurred to British, Canadian and foreign vessels in Canadian waters and to Canadian vessels in other waters, from January 1 to December 31, 1920 *Continued*

COASTING AND SEA-GOING WRECKS.

Date of Casualty	Name of Ship Official No.	Age of Ship Years	Registered Port	How rigged Iron or wood Steam or sail	Register Tonnage	Port sailed from Port bound to	Place where Casualty happened	Particulars of Casualty Name of Master	Lives lost	Loss Total or Partial
Aug. 31	Maggie May 96805	29	Halifax	Schr. Wood. Sail.	62	Little Bras d'Or Charlottetown.	Charlottetown harbour.	Collided with dock E. Lowe.		Total, $3,500.
Sept. 12	Metaguma 136791	5	London	Schr. Steel. Steam.	7,655	Liverpool Montreal	Isle Bouchard, River St. Lawrence.	Stranded I. Turnbull.		Slight.
Sept. 13	Mary L. Otner 141693	1	Lunenburg	Schr. Wood Sail.	169	Lunenburg Turks Island.	East end Silver bank, Caribbean sea.	Stranded Edmund Tanner.		Total, $40,000.
Oct. 16	Monobel 130295	10	Vancouver	Launch Wood. Motor.	9·6	Saanichton James Island.	James island, B.C	Burnt S. W. Buchanan.		Total.
Sept. 12	Minnie Mac 83303	38	Charlottetown	Schr. Wood. Sail.	76	Charlottetown Pt. Hawkesbury.	Big Pt., Flat River, Northumberland strait.	Stranded D. Murray.		Part, $2,500.
Oct. 20	M. L. Washburn 209341	9	American	Wood Steam.	179	Whitehorse, Y.T Kirkman, Y.T.	Little Salmon Yukon river.	Stranded E. Morrison.		Part.
Oct. 29	Minnie M. Cook 107952	19	Lunenburg	Schr Wood. Sail.	84	St. John's, Nfld La Cie, Nfld.	La Cie harbour	Stranded H. Daulton.		Total. $6,500.
Nov. 6	Marmion 102622	27	Vancouver	Iron Steam.	124	Anyox, B.C Ladysmith, B.C.	Granville channel, B.C.	Collison with *Princess Royal.* J. McNaughton.		Part.
Nov. 11	Maid of Canada 141137	2	La Have, N.S	Schr Wood. Sail.	330	La Have Barbados.	Carlisle bay, Barbados	Collison with *Chignecto.* J. B. Wilkie.		Part.
Nov. 18	Meredith A. White 138479	2	Parrsboro	Schr Wood. Sail.	496	Southampton Greenhithe.	3 miles off Margate, North Sea.	Damaged by fire S. Major.		Part.
Nov. 22	Margaret F. Dick 130259	2	Windsor	Schr. Wood. Sail.	989	New York Halifax.	Lat. 41 40 N. Long. 53 45' W. N. Atlantic.	Foundered N. H. O Hara.		Total.
May 24	Nasutlin 133738	8	Vancouver	Wood Steam.	256	In winter quarters. At Mayo, Y.T.	Mayo, Y.T	Foundered		Part, $2,000.
Nov. 9	Nanoose 122397	12	Victoria	Tug Steel. Steam.	166	Vancouver Union Bay.	Off Prospect Pt English bay.	Collison *Arabia Maru* W. J. Vergo.		Part.
Nov. 23	Nellie D 112288	17	Digby	Schr. Wood. Sail.	325	Gluco Bay Lockeport.	Lockeport	Foundered Alex. Ferguson.		Part: Ship, $1,000. Cargo, $550.

July 19	Casis 94665	1	Halifax	Schr. Wood. Sail.	62	Sheet Harbour Sydney.	Louisburg	Stranded J. A. Hopkins.	Total.
Oct. 1	Ohio 131096	7	Yarmouth, N.S	Schr. Gas.	42	Yarmouth Fishing.	8 miles S. by W. from Shelburne light.	Burnt Peter Leblanc.	Total, $6,000
Jan. 3	Prince George 129748	10	Newcastle	Schr. Steel. Steam.	1,625	Vancouver Vancouver.	Vancouver harbour	Collision with *Vancouver No. 2.* D. Donald.	Part.
Jan. 18	Powhattan 215457	21	New York	Schr. Steel. Steam.	6,420	New York Antwerp.	200 miles S. of Halifax, N. Atlantic.	Damaged in gale A. B. Randall.	Part.
Jan. 23	Prince Albert 99584	28	Prince Rupert	Schr. Steel. Steam.	587	Prince Rupert Prince Rupert.	Masset Inner Bar	Stranded H. L. Robinson.	Part.
Feb. 15	Prince George 129748	10	Newcastle	Schr. Steel. Steam.	1,625	Vancouver Victoria.	Vancouver narrows.	Stranded D. Donald.	Slight.
Mar. 30	Prince Albert 99584	28	Prince Rupert	Schr. Steel. Steam.	587	Prince Rupert Skidgate	Skidegate Inlet, B.C.	Collided with *Prince John.* H. L. Robinson.	Part.
Mar. 30	Prince John 129472	10	Prince Rupert	Schr. Steel. Steam.	540	Vancouver Prince Rupert.	Skidegate Inlet, B.C.	Collided with *Prince Albert.* W. S. Morehouse.	Part.
July 23	Prince George 129748	10	Newcastle	Schr. Steel. Steam.	1,625	Seattle, Wash Ocean Falls.	Seymour Narrows, B.C.	Stranded Dan. Donald.	Slight.
Aug. 22	Pacific 5637	6	Stockholm	Schr. Steel. Gas.	2,232	Gothenburg Vancouver.	Beach Head, B.C.	Stranded Oscar Godda.	Part.
Sept. 22	Parima 96643	31	Montreal	Schr. Steel. Steam.	1,875	New York Barbados.	Caribbean sea.	Engine trouble J.P. Curry.	Part.
Sept. 29	Prince Rupert 129743	10	Newcastle	Schr. Steel. Steam.	1,626	Seattle, Wash Prince Rupert.	Graham reach	Stranded D. Mackenzie.	Part.
Oct. 18	Princess Royal 121988	13	Victoria	F. & A. Wood. Steam.	981	Victoria Victoria.	Entrance Victoria har.	Collision with *Charmer* P. J. Hickey.	Part.
Nov. 7	Prosperative 141198	30	Vancouver	Tug. Wood. Steam.	44	Nanaimo Berry Island.	Berry island	Stranded T. T. Edwards.	Part. $9,000.
June 16	Q. J. T. 130706	13	Vancouver	Wood Gas.	8	Vancouver Cahmish Bay.	Swash Rock, B.C.	Burnt Henry Undine.	Total.
Nov. 11	Queen City 103482	26	Vancouver	Barge Wood.	181	Vancouver Ocean Falls.	Beaver Cove Johnstone strait.	Burnt W. Ford.	Total, $17,500.
Feb. 1	Ruth Hickman 138757	1	Halifax	Schr. Wood.	386	Buenos Aires Queenstown, Ireland.	Dingle bay	Stranded S. Noseworthy.	Total.
April 8	Respond 133768	7	Victoria	Tug. Wood. Steam.	16	Victoria Vancouver.	2 miles SW. Sandhead Lightship, Gulf of Georgia.	Damaged in storm David Birds.	Part.
June 8	Royalite 134513	4	Montreal	Steel. Steam.	1,542	Halifax Montreal.	Montreal harbour	Collided with pier F. Ferguson.	Part, $6,000.
June 25	Respond 133768	7	Victoria	Tug. Wood. Steam.	16	Victoria Sidney, B.C.	Haro Strait, B.C.	Stranded G. Morall.	Part.
July 28	R. S. 141204	2	Vancouver	Wood. Gas.	13	Vancouver Night Inlet.	3 miles SW. Hoyea Sound, B.C., Night inlet.	Damaged by sea	Part.

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Aug. 4	Reginilite 138372	2	Sarnia	Trawler Steel. Steam.	1,394	New York Massena.	N. Atlantic	Damaged by gale W. R. Soeltzer.		Part.
Aug. 4	Respond 133768	7	Victoria	Tug Wood. Steam.	16	Victoria Genoa Bay.	Barial island Sampson Narrows, B.C.	Stranded G. Morall.		Part.
Dec. 4	Renvoyles 126836	10	Toronto	F. & A. Steel. Steam.	1,176	Port Talbot Larochelle.	Belle Isle Roads Bay of Biscay.	Foundered K. Shoewark.		
Dec. 10	Romsdalsfjord	12	Christiania	Schr. Steel. Steam.	3,242	Narvik, Norway. Baltimore.	Sisters Ledge Sambro, N.S.	Stranded Harry Pay.		Total.
Jan. 19	St. Ann 123365	16	Vancouver	Wood Gas.	6	Seaside Howe Sound.	Howe Sound	Burnt G. E. Cates.		Total.
Feb. 19	Sheba 129326	8	Ottawa	Schr. Steel. Steam.	1,341	Halifax harbour	Halifax harbour	Struck pier		Slight.
Feb	Stella Maris. 117528	39	Windsor	Tug Steam.	54	Mahone Bay, N.S.	Mahone Bay	Caught in ice, propellor damaged.		Part.
May 10	Samuel Marshall 107426	31	Brockville	Wood Steam.	540	Sorel Ogdensburg	Ogdensburg	Collision with *Liberty*. Ludger Marchand.		Part.
Aug. 22	Scandinavian 109441	22	Glasgow	Schr. Steel. Steam.	7,729	Antwerp. Montreal.	Quebec harbour	Damaged propellor. R. G. Latta.		Part.
Oct. 3	Selkirk 67835	19	Victoria	Wood Steam.	490	White Horse, Y.T. Dawson.	Mouth of Stewart river, Y.T.	Stranded M. Campbell.		Part.
Nov. 9	St. Michael 137909	2	Toronto	Schr. Steel. Steam.	1,670	St. Nazaire Marseilles.	Lat. 28° 12′ N. Long. 15° 15′ W.	Circulating pump broken. Louis Pen.		Part.
Nov. 18	South American. 141857	New	Montreal	Schr. Steel. Steam.	1,309	Montreal Dalhousie.	Little Cape, Gaspe	Stranded Wm. Fraser.		Part.
Jan. 1	Two Sisters 02749	24	Sackville	Schr. Wood. Sail.	86		Struck off Quaco ledge, St. Martins, N.B.	Stranded		Total.
May 26	Tussle 137884	5	Lunenburg	Wood. Steam.	67	Arichat Port Mulgrave.	Sand Point, entrance to Str. of Canso.	Stranded G. D. Pentz.		Part.
Aug. 13	Tuscarora		American	Schr. Steel. Steam.	492	New York Milwaukee.	Hare island R. St. Lawrence.	Stranded Eug. Blake, jr.		Part.

Aug. 14..	Thomas Keng 28119	22	Bergen, Nor.	Schr. Steel. Steam.	2,242	Sydney, N.S. Montreal.	White Island lightship. River St. Lawrence.	Stranded B. Schjott.		Part.
Sept. 15...	Tyndareus 137527	4	Liverpool	Schr. Steel Steam.	7,172	Hong Kong Union Bay.	Off Atkinson Pt. Burrard Inlet.	Collided with crib of shingle-bolts.		
Dec. 2...	Teton 141329	2	New Westminster	Schr. Wood. Sail.	17	Prince Rupert Fishing.	Peril Bay Graham Is., B.C.	Stranded B. Hansen.		Part.
Dec. 3...	Turret Court 106608	24	Montreal	Schr. Steel.	1,197	Clarenville, Nfld. Sydney, N.S.	Lat. 46° 30′ N. Long. 56° 30′ W.	Engine trouble C. W. Kenny.		Part.
Dec. 4...	Thomas Crosby 141434	1	Vancouver	Sloop Wood. Gas.	22	Sandspit	Skidegate inlet	Foundered Wm. Oliver.		Total.
Nov. 13..	Uressa Belle 112120	17	Lunenburg	Schr. Wood. Sail.	95	Dog Bay	Newton harbour	Stranded C. Barber.		Total, $7,000.
Feb. 26..	Vincent A. White 138478	2	Parrsboro	Schr. Wood. Sail.	452	Bangor Menoa.	Fowey harbour	Collision with *Goliath* T. M. Nicholls.		Part, $250.
Sept. 2..	Venture 129471	10	Victoria	F. & A. Steel. Steam.	580	Vancouver Skeena River.	Grenville channel, B.C.	Collision with *Florence & Lee*. James E. Noel.		Slight.
Sept. 31..	Venosta 139959	3	Grimsby	Steel Steam.	128	Port Hawkesbury Fishing.	Strait of Canso	Stranded Geo. Meyhre.		
	Victory Chimes 134210	2	Charlottetown		294		Off Cape St. Vincent	Sprung a leak		Part.
Jan. 20..	W. T. White 131175	7	Lunenburg	Schr. Wood. Sail.	199	Santo Paula Fortune bay.	S.E. of Cape Race, North Atlantic.	Damaged in gale and abandoned. R. Williams.		Total.
April 11..	Wakena 208632	9	Seattle	Wood Gas.	316	Seattle Victoria.	Falford reef	Stranded J. P. Kelly.		Part.
April 19..	Wabash 126247	11	Victoria	Schr. Wood. Gas.	8	Victoria "	Shoal bay, B.C.	Stranded A. W. Watson.		Total.
April 20..	Westgate 91188	35	Liverpool	Iron Sail	1,813	Perth Amboy Halifax.	Lat. 42° 0′ N. Long. 65° 30′ W.	Abandoned H. H. Steel.		Total.
July 24..	Wildomino 141302	1	Halifax	Schr. Steel. Steam.	4,173	Lisboa Halifax.	White island off Canso.	Stranded J. Beeby.		Part.
Sept. 12..	Wisley 118121	16	London	Schr. Steel. Steam.	2,717	Sunderland Montreal.	Isle Bouchard, River St. Lawrence.	Collision with *Metagama* T. S. Bower.		Slight.
Nov. 10..	W. S. MacDonald 141258	1	Yarmouth	Schr. Wood. Sail.	382	St. Andrews, Fla. Grenada.	Gulf of Mexico and Atlantic ocean.	Damaged in gale John Duffy.		Part.
Nov. 13..	W. M. Richard 126598	10	Annapolis, N.S.	Schr. Wood. Sail.	323	Bridgetowa, Bar. Macoris, San Dom.	Lat. 28° 45′ N. Long. 79° 36′ W.	Foundered T. J. Boudrot.		Total.
Jan. 18..	Yarmouth 93373	32	Yarmouth	Schr. Iron. Steam.	724	New York Havana.	Lat. 39° 06′ N. Long. 74° 12′ W.	Damaged in gale J. Cockburn.		Slight.

STATEMENT of wrecks and casualties reported as having occurred to British, Canadian and foreign vessels in Canadian waters and to Canadian vessels in other waters, from January 1 to December 31, 1920—*Continued*

INLAND WATER WRECKS

Date of Casualty	Name of Ship Official No.	Age of Ship Years	Registered Port	How rigged Iron or wood Steam or sail	Register Tonnage	Port sailed from Port bound to	Place where Casualty happened	Particulars of Casualty Name of Master	Lives lost	Loss Total or Partial
May 19..	Andre Dep.o.or..... 141379	1	Montreal.....	Wood ..... Steam.	30n	Cardinal, Ont.. ..... Cape Vincent, N.Y.	Smith's Falls, Brockville, St. Lawrence river	Stranded..... L. Lemay.	.....	Slight.
July 3.	Amaranthe.....	30	Detroit.....	Schr..... Steel. Steam.	744	Detroit..... ..... "	S.W end passage island, Lake Superior, Mic	Stranded..... Alf. Burner.	.....	Partial.
Aug. 20.	Advance..... 88632	36	Montreal.....	Steel..... Steam.	358	Cleveland..... Montreal.	Lachine, Quebec	Stranded..... J. V. Norris.	.....	Partial, $5,000.
Nov. 11..	Aurora..... 162008	17	Plattsburg.....	Barge....	97	Three Rivers. ..... Burlington, U.S.A.	Mouth Batiscan river...	Stranded..... A. Lalontaine.	.....	Partial.
July 9..	Baltic.....	.....	American.....	.....	.....	Byng Inlet, Ont.....	Cove island, Georgian bay.	Stranded..... H. J. Nelson.	.....	Partial.
May 5..	Cataract..... 77698	1	Montreal.....	..... Iron & steel. Steam.	451	Kingston. .... Montreal.	McGee's point, Coteau lake.	Stranded..... J. J. Lawrence.	.....	Partial.
Dec. 2..	Chippewa..... 220783	1	Detroit.....	..... Steel. Steam.	1,110	Detroit..... ..... Quebec.	Quebec harbour.....	Damaged by fire..... W. R. Russell.	.....	Partial.
Nov. 4..	Dellwyn..... 96859	30	Sarnia.....	..Tug..... Wood.	28	.....	Whitby pier.....	Stranded.....	.....	Partial.
Nov. 12..	Francis Widlar..... 200910	16	Fairport, O.....	..... Steel. Steam.	3,368	Duluth. ..... Lake Erie.	Pancake shoal, Lake Superior.	Stranded.	.....	Total.
Sept. 15..	Garry..... 134253	6	Winnipeg.....	Tug.. .... Wood. Steam.	81	Selkirk..... Fishing.	9 miles N. of Selkirk ...	Collision..... Hugh Corcoran.	.....	Partial.
May 11..	Henry Pedwell..... 126058	4	Owen Sound.....	..... Wood. Steam.	127	.....	35 miles from Owen Sound.	Collision.....	.....	Partial.
Oct. 16..	Helen C..... 120654	46	Detroit.....	..... Wood. Steam.	160	Port Huron to Cutler...	1½ miles S.S.W. from Cutler.	Stranded..... A. Papineau.	.....	Partial, $7,000.
June ..	Isleway..... 116550	16	Montreal.....	..... Wood.	9	Pembroke ..... Desjoachines.	1½ miles W. of Pembroke	Fire ..... Nazare Emond.	.....	Partial, $1,500.
July 15..	John Gaskia..... 80668	40	Montreal.....	Schr..... Wood. Sail.	487	Montreal... .... "	Lachine canal	Stranded. ..... R. Bellefeuille.	.....	Total, $10,000.
Oct. 11..	Joyland.....	36	Montreal.....	..... Wood. Steam.	1,070	Port Colborne. ..... . Montreal.	2 miles from Kingston .	Stranded..... Arnold Arthur.	.....	Part, $20,000.

Aug.	20..	Keybell 131111	8	Montreal	Steel. Steam.	1,254	Ashtabula Montreal.	100 ft. W. of South breakwater, Lachine.	Stranded L. Beaupre.	Partial, $4,000.
Nov.	20..	Lehigh 141839	40	Montreal	Steam. Iron.	888	Montreal "	Fairhaven river, U.S.A.	Stranded. Wm. H. Ransom.	Slight.
May	11..	Manitou 107140	17	Goderich		297	Owen Sound	35 miles from Owen Sound.	Collision Norman J. McCoy.	Partial.
June	26.	Mapleheath 120767	10	Kingston	Steel. Steam.	1,036	Port aux Quilles Thorold, Ont.	E. end Morrisburg canal	Collision Jas. E. Mann.	Partial, $25,000.
Aug. July	3.. 11..	Maplegrove	21	Montreal	Wood. Steam.	637	Port Colborne Montreal.	Welland canal	Foundered H. J. Brian.	Total.
Aug.	3..	Mary E. McLachlan	27	Port Arthur	Barge. Wood. Sail.	1,739	Erie, Pa Port Arthur.	St. Mary's river, Lake Superior.	Collision. Alex. Mill.	Part, $3,000.
Aug.	24..	Mary A. McGregor 92075	31	Port Huron	Wood. Steam.	591	Cleveland Duluth.	S. side Magnetic reef, Georgian bay.	Stranded	Total.
Oct.	12..	Manitoba	31	Montreal	Schr. Steel. Steam.	1,699	Port McNicoll "	Near Round island, Soo river.	Stranded Frank J. Davis.	No damage.
Dec.	6..	Mapleheath	10	Kingston	Steel. Steam.	1,036	Ashtabula Montreal.	Lachine canal.	Stranded Jas. E. Mann.	Partial, $30,000.
July	11..	Pukwana 112145	17	Toronto	Wood. Steam.	9		Magnetawan river	Fire Capt. Ketch.	Total
Oct.	23..	Robbins		Fairport	Steel. Steam.			Bayport, 10 miles below Soo.	Stranded	
May	20..	Stuart W. 138096	30	Montreal	Wood. Steam.	971	Quebec Lorraine, Ohio.	Smith's island, Brockville.	Stranded A. Tremblay.	Partial.
July	4..	Stuart H. Dunne 72964	31	Montreal	Schr. Wood. Sail.	458	Toronto Lake Erie port.	Port Dalhousie pier	Foundered Nelson Fortin.	Total.
Nov.	2..	Stormont 140962	43	Montreal	Wood. Steam.	703	Port Colborne Montreal.	Williamsburg canal.	Foundered E. J. Smith.	Total, $90,000.
Dec.	3..	School Craft 134270	30	Midland	Wood. Steam.	690		North of Wolfe island	Fire T. Sugurne.	Total.
June	21..	Toronto 107412	21	Toronto	Wood. Steam.	1,652	Toronto	Point Frederick shoal.	Stranded	Partial.
Aug.	17..	T. P. Phelan 140953	2	Montreal	Steel. Wood. Steam.	769	Port Colborne Montreal.	Iroquois shoal, St. Lawrence river.	Stranded E. J. Shannon.	Total.
Sept.	20..	Vinmount 138850	3	Port Arthur	Iron. Steam.	1,107	Ashtabula Montreal.	Near Cascades point, Soulanges canal.	Collision J. Alex. Ferguson.	Partial, $7,000.
May	20..	Wyoming	33	Montreal	Wood. Steam.	911	Montreal Oswego, N.Y.	Off Knapp point, near Kingston.	Stranded E. Walkinshaw.	Partial, $100.

STATEMENT of wrecks and casualties reported as having occurred to British, Canadian and foreign vessels in Canadian waters and to Canadian vessels in other waters, from January 1 to December 31, 1920—*Concluded*

INLAND WATER WRECKS—*Concluded.*

Date of Casualty	Name of Ship Official No.	Age of Ship Years	Registered Port	How rigged Iron or wood Steam or sail	Register Tonnage	Port sailed from Port bound to	Place where Casualty happened	Particulars of Casualty Name of Master	Lives lost	Loss Total or Partial
May 26..	Wyoming.....	33	Montreal.....	..... Wood. Steam.	911	Montreal.....	½ mile N.E. off Batternut island, Lake St. Frances.	Stranded..... E. Walkinshan.	.....	Partial, $100.
Nov. 11..	W. C. Lafontaine..... 103541	12	Plattsburg, N.Y.....	Barge..... Wood.	99	Three Rivers..... Burlington.	Mouth of Batiscan river.	Stranded..... L. N. Saaschargin.	.....	Partial.
Nov. 26..	Windsor..... 125980	1	Montreal.....	..... Wood. Steam.	1,068	Oswego..... Toronto.	Lake Ontario, near Duck island.	Damaged by storm..... J. B. Norris.	.....	Part.
Mar. ..	Chambly..... 130417	10	Montreal.....	..... Wood. Steam.	218	Moored near Morrisburg	Near Wallaceburg, river Sydenham.	Fire.....	.....	Total.
Nov. 15..	Maplegulf..... 141752	31	Montreal.....	..... Wood. Steam.	493	Montreal..... Sarnia.	Lake Ontario.....	Damaged in heavy weather. Thomas McLeod.	.....	Total, $50,000.

MASTERS AND SEAMEN BRANCH

Report of B. F. Burnett Superintendent

During the fiscal year 1920-21, navigation schools were in operation at St. John, N.B., Halifax, N.S., North Sydney, N.S., Yarmouth, N.S., and at Quebec, P.Q.; and marine lectures were delivered at Collingwood, Ont., and at Vancouver, B.C.

Examinations for masters' and mates' certificates were held at Halifax, N.S., Yarmouth, N.S., North Sydney, C.B., Charlottetown, P.E.I., St. John, N.B., Quebec, P.Q., Montreal, P.Q., Ottawa, Ont., Kingston, Ont., Toronto, Ont., Collingwood, Ont., Port Arthur, Ont., West Selkirk, Man., Edmonton, Alta., Nelson, B.C., Prince Rupert, B.C., Vancouver and Victoria, B.C.

Issued during the year: 12 masters', 12 mates' and 22 second mates' sea-going certificates of competency; 20 masters' and 2 mates' sea-going certificates of service; 80 masters' and 94 mates' coasting certificates of competency; 36 masters' and 54 mates' inland waters certificates of competency; 35 masters' and 19 mates' minor inland waters certificates of competency; 24 masters' and 1 mate's service coasting certificates and 39 masters' temporary certificates.

During the year 22,569 seamen were shipped at the various shipping offices.

PILOTAGE REPORT

Capt. G. E. L. Robertson, Superintendent General

The Honourable the Minister of Marine and Fisheries is the pilotage authority for the pilotage districts of Halifax, St. John, N.B., Montreal, and Quebec, and all matters relating to pilotage are dealt with through the local superintendents at the above-mentioned places.

There are 60 pilots and 8 apprentices in the Quebec district. The gross earnings of these pilots was $143,034.74, giving an average of $2,383.91 to each pilot.

The total number of ships piloted inward and outward was 1,903 of a total net tonnage of 5,070,642.

In this district 7 per cent of the gross earnings of the pilots is deducted for the Pension Fund. This fund is administered by the Quebec Pilots' Corporation, and amounted on December 31, 1920, to $84,636.72. In addition to the pension received from the corporation certain retired pilots, 30 in number, receive an annual pension of $300 from the Government.

There are 51 pilots and 4 apprentices in the Montreal district. The gross earnings for these pilots was $149,881.34, giving an average of $2,938.88 to each pilot.

The total number of ships piloted inward and outward was 2,004, of a total net tonnage of 4,830,382.

In this district 5 per cent of the gross earnings of the pilots is deducted for the Pension Fund (Montreal Decayed Pilots' Pension Fund), which fund is administered, without charge, for the Montreal pilots by the Department of Finance.

Mr. R. A. Williard, Montreal, is the Acting Superintendent and Mr. F. J. Boulay, Assistant Superintendent, at Quebec.

All expenses for the pilotage services at Montreal and Quebec are paid out of public funds, which amounted to $7,725.65 for the Montreal district, and $73,431.66 for the Quebec district, the latter including the cost of maintaining the pilot boat *Eureka* at Father Point, Quebec.

In the Pilotage District of Halifax, there are 15 first-class, 3 second-class pilots and 5 apprentices. The gross earnings for 1920 were $54,982.55, giving an average of $3,332.25 for each first-class pilot. New by-laws for the government of this district were prepared and put into force on June 1, 1920. They provide that 5 per cent of the gross earnings are to be deducted for the pension fund. Seventy per cent of the balance is paid to the pilots, and the remaining thirty per cent is retained for expenses, if required. The Pension Fund is administererd, without charge, for the Halifax pilots by the Department of Finance. The pilots have been advanced moneys for the purchase of pilot boats.

In this district 1,867 vessels were piloted inward and outward, having a total net tonnage of 3,736,530.

Captain H. St. George Lindsay is the superintendent at Halifax.

The Pilotage District of Saint John, N.B., was formally taken over on October 1, 1920. There are 12 first-class pilots, 2 second-class pilots, and 3 apprentices. The gross earnings of the pilots for the three months ending December 31, 1920, was $9,379. By-laws for the government of this district have been approved and put into force. Pilots contribute 12 per cent of their gross earnings to the pension fund, which is administered, without charge, by the Department of Finance. Mr. J. C. Chesley, Saint John, is the acting superintendent.

The pilots of this district have been advanced moneys for the purchase of suitable pilot boats.

The Pilotage District of British Columbia was abolished by Order in Council, dated April 26, 1920.

Of the thirty-seven other pilotage authorities constituted under the authority of the Governor in Council in pursuance of the provisions of the Canada Shipping Act, sixteen have forwarded returns for 1920.

SIGNAL STATION, CITADEL, HALIFAX, N.S.

Record of shipping from April 1, 1920, to March 31, 1921, by F. C. Kilburn, Major, R.C.E., Superintendent of Signals:—

Total vessels reported	1,180
Total vessels arrived	1,180
Total vessels passed	nil

SABLE ISLAND—ANNUAL REPORT, 1920

J. M. Campbell, Superintendent

Government employees, 39; Marconi staff, 5; total, 44.

Boats.—one life boat (surf boat type), 2 life boats (self bailing type), 2 cargo surf boats, 2 dories, 1 motor launch.

Life Saving Apparatus.—three Lyle guns and equipment, 2 boat carriages.

Horses—Tame ponies, 36; wild ponies, estimated, 300. (Shipment of wild ponies should be made in near future).

Cattle—Thirty-eight head. Killed, 3 head. Weight, 1,790.

Pigs—Two.

Boat drills.—Fifteen.

Gun drills.—Twelve.

Patrol.—The island was patrolled twice daily during thick weather and storms.

Wrecks.—None.

Buildings.—Many of the buildings are old and in need of repair, as reported by letter.

REPORTS OF AGENCIES

Halifax, N.S., Agency

New aids to navigation during the year consisted of a gas beacon at Sauls island, a gas and bell buoy at Barrington bay, replacing lightship; at Port Herbert, eight wooden spar buoys, four red and four black; at Canso harbour, two wooden spar buoys, one red and one black.

Repairs were made to the following light stations: Cranberry island, Bear island, Point Tupper, Peggy point, Egg island, Sambro, Carter island, McNab's island, George's island, Devil's island, Moser island, Flat point, Betty island, and Lahave.

Changes and improvements in existing aids in the agency were made as follows: Lunenburg harbour, Long shoal, can buoy replaced by gas buoy; Sydney harbour, southeast bar, fixed red light replaced by an occulting white acetylene gas light; Mahone bay, Hobson island, fixed red light replaced by an occulting red acetylene gas light; Mahone bay, West-Haver island, fixed white light replaced by an occulting white acetylene gas light; Great Bras D'Or lake, Whycocomagh, fixed red light replaced by a fixed white light; Sydney harbour, southeast bar, fog bell discontinued; Jordan light on outer end of Jordan bay east side breakwater, light discontinued.

The C.G.S. *Lady Laurier* was employed from April to December, 1920, in the district, and from January to March 7, 1921, when she was blown down for annual repairs.

The C.G.S. *Stanley* was employed in agency work during April and May, 1920, and January to March, inclusive, 1921.

The C.G.S. *Dollard* was employed in the district from February 21 to end of March, 1921.

The C.G.S. *W. H. Lee* was transferred from the Department of Naval Service to the Department of Marine on December 7, 1920. December 7 to 15, under repairs; January 1 to February 26, again under repairs; February 26 to March 31, 1921, employed in district.

The C.G.S. *Montcalm*, employed in agency work from April 1 to April 21, 1920; April 22 to 30, under repairs.

The C.G.S. *Aberdeen*, on December 8, arrived from New Brunswick agency for repairs; January 1 to February 8, under repairs; February 9, sailed for St. John.

The C.G.S. *Nelson*, undergoing repairs at agency wharf from April 1 to July 31, 1920; from August 1 to December 29, 1920, under Fishery Branch; December 30, 1920, to February 28, 1921, employed in agency work.

Lightship *Halifax No. 15*, April 1 to October 5, 1920, on Sambro bank station; October 6 to 16, undergoing repairs at Halifax; October 16 to December 9, at Anticosti; December 9, 1920, to February 8, 1921, under repairs at agency wharf; February 9 to March 31, 1921, on Sambro bank.

Pictou, N.S., Sub-Agency

Outside buoys were lifted November 30, repaired, painted, and placed in position on May 16, 1920, the work of lifting and replacing the buoys being done by ss. *Brant*.

The deep-water channel from Abercrombie point to New Glasgow was bushed and mark placed on submerged wreck.

Assistance was rendered to steamers *Canadian Miner* and *Canadian Sealer*, and supplies obtained for ss. *Stanley* while on Magdalen island service.

Steamers arrived 225, tonnage 40,128; steamers departed 234, tonnage 46,761; sailing vessels arrived 304, tonnage 20,971; sailing vessels departed 306, tonnage 20,942.

Sydney, N.S., Sub-Agency

Wharfingers were appointed at Port Hastings, Iona, and Baddeck, and instructed as to their duties. Building material for the light and signal station at Cape Ray, Nfld., was purchased and shipped. All harbour buoys adrift were picked up, and a number of wireless calls (some S.O.S.) answered by sending help when possible.

	Number of ships	Tonnage
Port of Sydney		
Foreign in	504	698,850
Coastwise in	1,471	792,311
Foreign out	741	931,009
Coastwise out	1,207	544,276
Port of North Sydney—		
Foreign in	909	359,863
Coastwise in	852	180,787
Foreign out	733	300,446
Coastwise out	1,042	197,862
Port of Louisburg—		
Foreign in	301	162,210
Coastwise in	307	183,687
Foreign out	327	216,609
Coastwise out	334	233,113

Charlottetown, P.E.I., Agency

The only changes in the agency staff during 1920-21 were the replacing of the district engineer, Mr. J. A. Leger, by Mr. E. E. Clawson, on June 1, 1920, and the appointment of Mr. G. J. Moren as clerk on April 8, 1920.

Work on the marine wharf at Charlottetown was continued. Warehouse No. 1 was reshingled, fitted with eaves, troughs, and drain pipes, and painted. Warehouse No. 2 was painted, and No. 3 placed on a pile foundation on present site. Warehouse No. 4 had north end reshingled and was painted. Hand-power elevators were installed in warehouses Nos. 1 and 2, and the wharf and all buildings were wired for electric lighting.

The work of the superintendent of lights and the inspector of fog alarms was carried on as usual, though somewhat interrupted by storms and fogs. The inspector of fog alarms reports that the fog alarm at the southwest end of Belle Isle had suffered damage by frost to the water-pipe leading to the turbine, and suggests that this station be converted into a standard oil plant.

The C.G.S. *Brant* was employed in the agency from April 23 to December 7, 1920, when she went into winter quarters.

The C.G.S. *Montcalm* was engaged in placing the large buoys in the district from May 13 to May 26, 1920.

The C.G.S. *Stanley* arrived at Charlottetown on May 28, 1920, and after loading supplies for the northern stations sailed on June 6; from June 17 to 25 stuck in heavy ice in mid-straits, from then until September 19, when she went to Halifax for repairs; was employed in general agency work. Returned to Charlottetown October 20, and from then until the end of the season was employed in the vicinities of Belle Isle, Bird Rocks, Cape Anguille, and the Magdalen islands.

The C.G.S. *Rouville* was employed in the district in lighthouse supply work from July 17 to September 20, 1920.

Quebec Agency

Three new wharves were transferred to the agency during the year, viz., Riviere-aux-Vases (Chicoutimi county), Ste. Luce (Rimouski county), and Trois Lacs (Frontenac county), making a total of 63 in all under agency control; the collections for the year amounted to $14,714.11.

The three light and fog alarm stations on the north shore of Anticosti island at Cap de Rabast, Charleton point and Table head, built during the war, are now in permanent operation, with the result that with their aid many vessels now pass on the north side of the island, shortening the distance between Quebec and the strait of Belle Isle, inward or outward.

A new gas buoy was placed on St. Augustin bar, a diaphone fog alarm on Miscou island to replace steam plant, and the Great Fox River range changed from harbour to lead to Government wharf.

The C.G.S. *Eureka* was employed in pilotage work at Father point from June 16 to the end of the season of navigation; this work in the earlier part of the season being performed by the ss. *Rouville.*

Other Dominion steamers employed at various times in the district were the *Montcalm* and *Druid,* and for winter repairs and supply work the *Lady Grey* and *Bellechasse.*

The winter ferry service between River Ouelle wharf was carried on by the ice-breaker *Montcalm* up to the 3rd of May, when she was sold to the Gulf of St. Lawrence Shipping and Trading Company of Quebec.

Victoria, B.C., Agency

Little or no construction work of any importance was done during the year, the work of a new concrete tower at Carmanah point having been postponed.

Two seventy-five foot vessels, one for this agency and the other for the Prince Rupert agency, equipped with semi-diesel engines, were built and handed over by the British Columbia Yacht and Boat Builders Company, Ltd., of Victoria, B.C.

The Life-saving Stations at Banfield and Clayoquot were taken over on July 3, 1920.

On August 22 the motor ship *Pacific,* ashore at Beachy head, was brought off by the C.G.S. *Estevan.*

The American passenger and freight schooner *Dora* went ashore December 20 on Noble island and became a total wreck; no loss of life.

On December 3 the American fishing schooner *Malolo* went ashore on Flores island, off west coast of Vancouver island; abandoned, no loss of life.

The C.G. steamers *Estevan* and *Leebro* were employed in agency work throughout the season, the first from April 6, 1920, to March 18, 1921, and the second from March 26, 1920, to February 28, 1921.

Prince Rupert, B.C., Agency

The usual work of cleaning, painting, and repairing buoys and beacons, and maintaining light stations, and overhauling and installing fog-alarm plants was carried out in the district throughout the season.

The Government wharves at Stewart, Masset, and Spiller river were inspected and reports made on them.

The C.G.S. *Newington* was employed throughout the season in the district, except for the interval June 23 to August 17, when a strike occurred; the C.G.S. *Leebro* for a short time in September, and from January 26 to February 11, 1921; and the C.G.S. *Estevan* from June 14 to July 8.

Fort William, Ont., Sub-agency

Ten lightkeepers went to their stations on April 21, 1920. The first vessel arrived on April 26, and all shore lights were in operation on April 29. Thirty-five spar buoys were placed in Port Arthur and Fort William harbours, and three bell buoys and two gas buoys.

The C.G.S. *Grenville* arrived at Port Arthur August 1, left on August 4 with supplies for lake Superior stations. On September 25, C.G.S. *Bayfield* arrived at Port Arthur to install a new boiler.

The last vessel left for eastern ports on December 12, and on the same date all buoys were lifted.

Kenora, Ont., Sub-agency

No new channels were buoyed during the season and only the buoy service already existing was maintained.

During the months of May and June the launch *Mist* and the ss. *Minaki* were employed on buoy service on lake of the Woods and Shoal lake. The *Mist* was employed on the same service during August on Rainy river and lake, and Wabigoon lake. On the Winnipeg river the steamer *Sport* was engaged from July 9 to 13 in painting and replacing buoys.

Parry Sound, Ont., Agency

A concrete boat runway was built in connection with Red Rock lighthouse in September, 1920, and repairs effected to boathouse and buildings at Bustard rocks station in the same month.

At the close of navigation and during the winter months of 1921 all the gas buoy lanterns in the district from Sarnia to the head of lake Superior, 51 in all, were overhauled. All gas and iron buoys in Georgian bay and part of lake Huron under the agency's control were put in condition for the opening of navigation.

The C.G.S. *Lambton* was employed in the district from April 8 to December 2, when she was laid up at Midland, and the C.G.S. *Grenville* from April 14 to December 25, wintering at Midland.

Dominion Lighthouse Depot, Prescott, Ont.

During the fiscal year 1920-21, lighthouse, fog alarm, and buoy materials were made up and shipped to the various agencies and light stations of the department, and the necessary work performed in the maintenance of lights, beacons, and gas buoys in the Prescott division.

During the winter extensive repairs were made to the C.G.S. *Concretia* and the C.G.S. *Scout*, and to the depot plant.

The machine shop completed about 166 orders during the year, and partially completed a number of others. These orders included the making of standard stock materials, remodelling of Alliance clocks, repairing of lens apparatus for shipment, repairs to materials received from various agencies, and necessary work for Government steamers and plants.

The carpenter shop kept all buildings at the Dominion Lighthouse Depot in proper repair, made necessary repairs to the decks and hulls of the Government steamers of the Prescott division, and made buoy superstructures and beacons.

The coppersmith and tinsmith shops repaired and improved all lanterns received from the various agencies and overhauled and made oil tanks, and also stove pipes for lighthouse supplies, and performed all coppersmith and tinsmith work in preparing apparatus in machine shop and carrying out repairs to Government steamers.

In the paint shop department all buoys and lighthouse lanterns of the Prescott division were painted, also fog alarm materials, lighting apparatus, superstructures, etc., as well as Government steamers.

Four hundred and sixty-eight shipments were sent out during the year by the packing and shipping department; boxes and crates made for all shipments, lists prepared, and all goods received, unpacked and stored.

The blacksmith shop made all the forgings required by the machine shop during the year, necessary repairs to steamers, ladders, tools, and boats for lighthouse and fog alarms, and superstructures for gas and bell buoys.

The brass foundry turned out all brass castings required in various kinds of apparatus, vapour supplies, and for Government steamers.

Shipyard shop handled all freight shipments to and from the depot, as well as coal and store materials for the various departments, loaded and unloaded railway cars, and attended to the depot yard. A number of reclaimed spar buoys were overhauled, and some concrete anchors made.

The gas test room overhauled and tested all lighthouses, beacons, and buoy lanterns in the Prescott division. Carbide gaskets, purifier door gaskets, buoy lantern diaphragms, etc., for the agencies were made. Shipments of Pintsch gas to the Dominion Lighthouse Depot were measured up and reported on. Acetylene gas plants were installed at various stations.

Sixteen new patterns were turned out by the pattern shop, and a number overhauled and stored, and twenty-one drawings were made in the draughting room.

The C.G.S. *Scout* was employed in agency work from April 7 to December 14, 1920, and the C.G.S. *Concretia* from April 1 to December 15, 1920.

Montreal Agency

The expenditure in the district exceeded that of 1919-20 by $43,319.80.

Chambly basin front light was rebuilt. Cape Charles front light was moved to a new site, owing to the undermining of the old one, as also was Cap Madeleine upper back light.

At La Perade a new range light, concrete pier and concrete superstructure were built; a similar structure was erected at Gentilly to replace the old light moved out of position by ice shoves.

Piling and rip-rapping protection work was carried out at Isle de Grace back light and Ile Ste. Therese upper front light.

Lotbiniere front light was rebuilt to increase the visibility, a steel tower with wooden upper part, being supported by concrete pillars on a concrete platform.

Dominion steamers *Dollard, Reserve, Acetylene, Argenteuil, Vercheres, Shamrock* and *Varennes* were employed at various periods during the season in the district.

St. John, N.B., Agency

During the year all aids to navigation were inspected by the superintendent of lights, and all light and fog alarm stations, buoys and beacons repaired and kept in order.

Repairs were made to the life-saving stations at Bayview and Little Wood island at a cost of $622 in all; repairs and alterations were also made to the Signal Service stations at Brier island, Parrsboro and Point Lepreau.

At the Partridge Island signal station, St. John, 74 steamers, tonnage 227,236, were signalled, and 10 sailing ships, tonnage 6,242; total 80 vessels, tonnage 237,910.

The following lights have been discontinued: Amherst Basin range lights, Annapolis wharf light, Clifton light, Porter Point light, Reid Point light, Salter Head light, and electric lights on west side of St. John harbour.

Repairs were made to wharves at Granville Centre, Digby, Little River, Ogilvie, St. John west, and St. Martins. Total wharfage collections amounted to $74,158.62.

The new fog-alarm building at Letite passage with diaphone and oil-engines to replace the old steam trumpet was completed at a cost of $7,337.95, and a day beacon erected at Matthews cove, Letite passage. At Machias, Seal island, the piers damaged

by seas were repaired and strengthened, and extensive repairs made to the dwelling house. An unwatched light was installed at Midjik bluff. A fog bell in a steel frame was erected on the end of the wharf at Spencer's island.

The installation of oil storage tanks are underway at Grindstone island, Long Eddy, Machias, Seal island and Cape Sharp.

The C.G.S. *Aberdeen* was employed in agency work throughout the season, except for the periods of June 4 to June 27, and December 8 to February 8, when she was undergoing repairs, during the first period at St. John, and the second at Halifax.

The C.G.S. *Laurentian* from April 1 to May 28 underwent repairs at the marine wharf at St. John; from May 29 to October 3, repairs to hull and machinery at Yarmouth, N.S.; from October 3 to March 31, 1921, was employed continuously in agency work.

PORT WARDENS' REPORTS FOR THE YEAR ENDED DECEMBER 31, 1920

Returns have been received from sixteen port wardens, eight from Nova Scotia port wardens, two from New Brunswick port wardens, two from Quebec port wardens, and four from British Columbia port wardens.

The total amount of fees collected by port wardens during the year was $29,657.76. To this total the port of Montreal contributed $17,142.91, the port of Halifax $4,388.50, the port of Vancouver $2,780.85, the port of Sydney, C.B., $1,746, and the port of Quebec $1,398.50.

The St. Lawrence ship channel was clear of ice on April 18, two days later than last year, the Government steamer *Lady Grey* being the first arrival. Navigation closed on December 6, with the departure of the ss. *Benguela* for South African ports.

At the port of Montreal the number of overseas ships reported during the year was 546, aggregate tonnage 1,896,439, an increase of 15 ships and 87,291 tons over last year.

For the lower ports 41 vessels cleared, 32 steam and 9 sailing ships, aggregate tonnage 22,783; this was a decrease of 56 ships and 138,484 tons as compared with last year, due largely to the lack of coal importation by the Dominion Coal Company.

For the first time since October 14, 1910, a full-rigged sailing ship, the *Grand Duchess Marie Nikolaevna*, of Odessa, 1,823 tons net, sailed from the port on October 2, with a cargo of lumber for Liverpool.

The water in the ship channel between Montreal and Quebec was unusually low during the season.

The following casualties occurred:—

August 14.—Collision between steamships *Tunisian* and *Manchester Division*, near Red island, in a dense fog; both damaged.

August 14.—SS. *Thomas Krag*, aground for fifteen minutes near White island light vessel, repaired at Quebec.

August 20.—SS. *Manoa* touched bottom in Cap-a-la Roche channel; repaired at Quebec.

October 21.—SS. *Chama*, outward bound, stranded at Bellechasse; returned to port for repairs.

October 21.—SS. *Georgie*, grounded near Sillery; repaired at Quebec.

The amount of grain shipped from the port of Montreal during 1920 was:—

	Bushels
Wheat	42,708,589
Peas	41,694
Barley	5,039,309
Oats	2,761,258
Corn	431,055
Rye	6,536,296
Total	57,518,201

This was an increase of 10,335,563 bushels over the 1919 shipments.

From the port of Halifax there was shipped during the year:—

Wheat	782,284	bushels	to	United	Kingdom
Barley	50,586	"	"	"	"
Oats	56,316	"	"	"	"
Wheat	129,480	"	"	Greece	
Total	1,018,666				

REPORTS OF HARBOUR COMMISSIONERS

Quebec Harbour Commission

NEW BOARD

On the resignation of the Hon. D. O. L'Espérance, as chairman of the board, a new board was appointed by order in council of April 21, 1920, consisting of Major-General Sir David Watson, Chairman, and Mr. A. S. Gravel, and Brigadier-General T. L. Tremblay, Commissioners.

CHIEF ENGINEER'S REPORT

The second of the two fire-proof landing sheds at the St. Charles river quay front has been completed and is in use.

Railway lines to serve a coal site to the west of the river St. Charles quay front have been laid down.

The dredging of the St. Charles river basin was continued.

The level of pier No. 1 was raised and concrete paving laid down between the landing sheds and the quay front. Landing shed No. 26 was raised and repaired, and a second story erected over the south front to provide offices for the Canadian Pacific Railway Company.

A landing stage 300 feet by 51 feet and 13 feet above the quay level was built in connection with landing shed No. 18.

The paved roadway at the west end of embankment connecting with Ramsay street was completed.

A brick and concrete engine shed 119 feet by 60 feet was constructed under contract.

The upper part of the Custom House cribwork supporting the roadway leading to shed No. 21 was rebuilt.

Of the superstructure of the long wharf at Indian cove some 280 feet has been rebuilt, leaving 400 feet still to be done.

All commissioners' properties have been maintained in good order, with the exception of the roof of the older part of shed No. 18 which needs renewal.

WHARFINGER'S REPORT

The traffic in connection with the St. Charles river docks and wharves was: inwards, 460 vessels, 1,121,637 tons register; outwards, 214 vessels, 549,946 tons register; lower port vessels, inwards, 98 vessels, 14,674 tons register; outwards, 105 vessels, 18,610 tons register.

HARBOUR MASTER'S REPORT

Port of Quebec—Record of Shipping Arrivals, 1920

	No.	Gross tons
Coasting vessels from seawards..	199	129,829
Coasting vessels from Montreal and Great Lakes.. ..	251	255,999
Ocean steamships, inwards..	156	1,405,452
Ocean steamships, outwards..	104	438,855
Totals..	710	2,230,135

The outer Louise basin was kept open for navigation until January 15 when all vessels went into winter quarters.

The C.G.S. *Lady Grey* was the only steamer in commission throughout the winter. On March 6, fire broke out on ss. *Marian W* in the inner Louise basin, the vessel was burnt to the water's edge.

The first coastwise ship to arrive in port in the spring was the schooner *Sault au Mouton*, on April 1, and the first overseas ship the *Canadian Aviator*, on April 24.

First mail and passenger steamer to arrive was the *Saturnia*, Donaldson Line, on May 3.

The last vessels to depart were the ss. *Keyingham* and *Lake Gatum*, on December 12. On December 13 all ships, except some of the Government steamers went into winter quarters in the outer Louise basin.

TRAFFIC MANAGER'S REPORT

Loaded cars received..	13,423	
Loaded cars forwarded..	11,011	
		24,434
Empty cars received..	6,071	
Empty cars forwarded..	8,581	
		14,652
Total number cars handled....		39,086

Cars handled by "Car Ferry" Account Grand Trunk Railway System—

Loaded cars received..	4,569	
Loaded cars forwarded..	2,821	
Empty cars received..	538	
Empty cars forwarded..	1,267	
	9,195	

Account Quebec Central Railway—

Loaded cars received..	439	
Loaded cars forwarded..	692	
Empty cars received..	9	
Empty cars forwarded	53	
	1,193	
Total number of cars handled by "Car Ferry"..		10,388
Loaded cars interchanged via harbour tracks..		3,256
Loaded passenger, mail and baggage cars handled..		3,109
Number of cars of coal forwarded from Harbour tracks..		1,401

GRAIN ELEVATOR NO. 2

		Bushels
Grain received—		
In store at end of season 1919		433,664
Grain received during year		450,786
Total		884,450
Grain delivered—	Bushels	
By conveyors	111,152	
" cars	410,511	
" bags	217,517	
		739,180
In store January 1, 1921		145,270

REVENUE AND EXPENDITURE

The revenue for 1920 was $322,397.47, the expenditure $387,619.43, leaving a deficit for the year of $65,221.96.

GENERAL

A movement has been set on foot to induce the different Canadian railway companies to restore on grain sent to Quebec for export, the old rates in effect during the years 1900 to 1903 inclusive, in order to bring to Quebec large quantities of grain for shipment, at present being shipped from American ports, owing to the high freight rates at present prevailing on Canadian lines.

The matter is now before the Board of Railway Commissioners.

During 1920 the commissioners' wharfage and switching tariffs were carefully revised with a view to meeting the increased costs of material and labour.

The operating and office staff have been reduced to a minimum, and every precaution taken against waste of any kind; as a result the operating expenditure for 1920 was $387,619.43, as compared with $438,673.17 for 1919, a decrease of $51,053.74.

The chairman of the Quebec Harbour Commission, accompanied by Brigadier T. L. Tremblay, Commissioner, and the secretary-treasurer of the commission, attended the sitting of the 9th Annual Convention of the American Association of Port Authorities held at Chicago on September 30, 1920, when various papers relating to United States and Canadian ports, their development and equipment, were read and discussed. The chairman of the Quebec Harbour Commission was elected one of the vice-presidents of the association.

Three Rivers Harbour Commission

Statement of Number and Tonnage of Steamers and other Vessels Reported Inward and Outward of the Port of Three Rivers, for the Year 1920

Ocean Traffic — Nationality	Return of Vessels Inward		Ocean Traffic — Cleared for	Return of Vessels Outward	
	No.	Tons		No.	Tons
British	18	50,105	Inland ports	4	5,339
American	1	1,257	Great Britain	16	47,250
Dutch	1	1,227			
	20	52,589		20	52,589
United States Traffic			Inland Traffic		
Canal Boats	173	17,361	Tugs—Steamboats—Barges	768	900,092

RECAPITULATION

Ocean traffic	20	52,589
United States traffic	173	17,361
Inland traffic	768	900,092
Grand total	961	970,042

MERCHANDISE

Inward			Outward		
Hard coal	tons	12,963	Sand	tons	42,500
Soft coal	"	2,300	Paper	"	8,895
Sand	"	1,443	Pulpwood	cords	5,823
Sulphur	"	19,505	Lumber	feet	20,838,177
Mash hay	"	148			
Fuel oil	Imp. gal.	1,256,005			
Cordwood	cord	320			
Bricks		1,470,000			
Apples	bushels	1,350			
Lumber	feet	520,875			

RECEIPTS AND DISBURSEMENTS FOR THE YEAR 1920

Receipts		Disbursements	
Tonnage dues	$ 1,410 79	Current expenses	$ 348 47
Moorage dues	485 19	Salaries and commission	5,840 65
Harbour dues: Inward	3,536 14	Printing and stationery	101 66
Harbour dues: Outward	3,005 14	Travelling	17 95
Commutation	680 50	Repairs and general harbour expenses	2,535 70
Rent of wharves	5,888 47	Interest on debentures	9,537 50
Divers and discounts	7,852 00	Construction	112 47
Similarly amounts and notes to be collected	2,659 45	Divers repayments	3,226 79
Reserve account	23 71		$21,721 19
	$25,541 39	Outstanding account	2,659 45
Deposit in bank and cash on hand December 31, 1919	2,460 27	Deposit in bank and cash on hand December 31, 1920	3,621 02
	$28,001 66		$28,001 66

Vancouver Harbour Commission

DESCRIPTION OF HARBOUR

The limits of Vancouver harbour as described by the Dominion Act of Parliament of 1913, extend eastward to a line drawn from Point Atkinson lighthouse and the westernmost part of point Grey on English bay, and include the tidal waters of English bay, Burrard inlet, with the North arm and Port Moody, and False creek.

WHARVES, PIERS AND SHEDS IN USE

	Length feet	Width feet	Approximate capacity of sheds in tons
Dominion Government wharf	800	300	.....
Shed 1	678	80	5,400
Shed 2	843	98	8,250
Canadian Pacific Railway Wharf Line, 8,252 Feet—			
Pier "A" Sheds 1, 2, 3	700	184	8,250
Pier "D"	942	150	6,400
Pier "H" (open storage)	700	120	8,400
Shed	620	90	5,600
Key wharves from piers "A" to "H"	1,600	100	
Shed 3	300	80	12,500
Sheds 4, 5, 6, 7	1,150	80	

WHARVES, PIERS AND SHEDS IN USE—*Concluded*

	Length feet	Width feet	Approximate capacity of sheds in tons
Great Northern Railway	470	127	.....
Two sheds	600	100	6,000
	400	....	4,000
Grand Trunk Steamship Co.	550	100	.....
One shed	500	70	3,300
Union Steamship Co.	435	95	4,100
Evans, Coleman & Evans—			
Pier No. 1	600	91	
Shed	590	62	3,700
Pier No. 2	732	100	
Shed	632	75	4,800
Imperial Oil Co. at Ioco—			
Two wharves	850	....	.....
With two L's	300	....	.....
Tank storage capacity	....	....	133,300
Union Oil Co.	300	20	.....
Four tanks, each 55,000 bbls. capacity	....	....	
One feed tank, 1,000 brl. capacity	....	....	30,000

PIERS UNDER CONSTRUCTION

Ballantyne Pier, Vancouver Harbour Commissioners (Double-decked sheds, reinforced concrete throughout).	1,200	341	40,000
Canadian Pacific Railway—			
Pier "B" "C" Double-deck sheds.	1,100	330	30,000

RAILWAYS

The Canadian transcontinental railways entering Vancouver are the Canadian Pacific, Canadian National and Grand Trunk Pacific, while the American railways doing business at the port are the Great Northern, Northern Pacific, and the Chicago, Milwaukee and St. Paul.

OVERSEAS STEAMSHIP COMPANIES

The bulk of the deep-sea shipping from the port during 1920 was handled by the companies given below:—

Blue Funnel (Dodwell & Co.).
Canadian-Australasian Royal Mail Line.
Canadian Government Merchant Marine, Ltd.
Canadian Pacific Ocean Services, Ltd.
Canadian Robert Dollar Company, Ltd.
Canadian Western Steamship Company.
Frank Waterhouse & Co.
Harrison Line (Balfour Guthrie).
Isthmian Line (B. W. Greer & Co.).
Johnson Line (C. Gardner Johnson Company).
Kingsley Navigation Company.
Nippon Yusen Kaisha (B. W. Greer & Co.).
Norwegian Line.
Osaka Shosen Kaisha (C. Gardner Johnson Company).
Pacific Coast Steamship Company (Admiral Line).
Pacific Mediterranean (B. W. Greer & Co.).
Pacific Motorship Line.
Rolph Line.
Royal Mail Steamship and Holland-American (joint service).
Struthers & Dixon (John Galt).

COASTWISE SHIPPING COMPANIES

Among the companies carrying on passenger and freight business in British Columbia waters are:—

British Columbia Coast Steamship Service (Canadian Pacific Railway Co.).
Coast Steamship Company.
Coastwise Steamship and Barge Company.
Frank Waterhouse & Company.
Grand Trunk Pacific Coast Steamships.
Kingsley Navigation Company.
Union Steamship Company.

GRAIN ELEVATOR

The Dominion Government grain elevator situated on the Government wharf is a model of modern elevator construction. It has a storing capacity of 1,250,000 bushels, a receiving capacity of 20,000 bushels per hour, a loading capacity of 60,000 bushels per hour, and a sacking plant with a capacity of 3,000 to 5,000 bushels per hour.

SHIPBUILDING

The shipyard of J. Coughlan & Sons, Ltd., on False creek, has equipment for building ships of 8,000 tons and over, and has received orders not only from Britain and Canada, but from a number of foreign countries, including France, Spain, Norway, Sweden, Belgium, Greece, and Italy.

The Wallace Shipbuilding and Drydock Company, Ltd., constructs ships of all sizes from tug-boats to ocean freighters. This company has also a marine way and repairing plant with a capacity up to 2,500 tons d.w.

RECORD OF SHIPPING FOR YEAR ENDED DECEMBER 31, 1920

COASTWISE

Number of vessels (local)	11,240
Number of vessels (foreign)	249
Total gross tonnage (local and foreign)	7,397,472
Number of passengers landed	300,481
Number of passengers shipped	293,624

DEEP SEA

Number of vessels	336
Total gross tonnage	1,884,042
Number of passengers landed	31,418
Number of passengers shipped	18,882

OPERATING REVENUE

Harbour dues—Port Warden fees, etc	$ 56,668 24
Cargo rates	56,315 48
Government wharf, including rental of wharf due from C.G.M.M. Limited	60,600 30
Granville Island—Rental revenue	32,081 20
Rentals of water lots	15,759 92
	$221,425 14

OPERATNG EXPENDTRURE

Government wharf—Maintenance and repairs	$ 20,896 28
Granville Island—Operating expenses and maintenance	11,886 80
Interest and exchange on debentures to the public	16,659 40
Sundry expenses on harbour, etc	8,736 83
Administration and miscellaneous expenses	74,534 69
Total operating expenditures	$132,714 00
Surplus for year ended December 31, 1920	88,711 14
	$221,425 14

Pictou Harbour Commission

STATEMENT OF HARBOUR DUES FOR THE YEAR ENDED DECEMBER 31, 1920

Balance on hand December 31, 1919	$100 00	
Collections of harbour dues in 1920	604 27	
		$704 27

Disbursements in 1920

Paid salary of Harbour Master	$200 00	
Paid Harbour Commissioners	404 27	
Cash balance on hand	100 00	
		$704 27

COMMISSIONERS' ACCOUNT FOR THE YEAR ENDED DECEMBER 31, 1920

1920			
April	13	Wm. McLean, bushing channel to old Loading Ground	$ 18 00
	23	E. C. McDonald, bushing East River	31 50
		S.S. *Hiawatha*, putting out harbour buoys	40 00
May	19	Wm. Talbot, putting 5 mooring posts New Glasgow wharf	100 00
		P. Hall, painting buoys	12 00
		R. Powell, saving buoy adrift and placing same in position	27 50
		Albert McDonald, placing buoy over sunken wreck, East river	6 00
		Alex. McMillan, chain for buoy	20 70
		John Doull, solicitor	10 00
		S.S. *Hiawatha*, taking up buoys	30 00
		E. C. McDonald, extra bushing East river	10 00
		Sumner Gordon marks channel	45 00
		J. W. McKinnon, balance	100 00
		Secretary, salary	200 00
		Balance	33 82
1920			
Feb.	11	Balance per acct	$280 25
1921			
Jan.	7	Harbour dues, 1920, per statement Collector Customs	404 27
			$684 52
		By balance	$33 82

Montreal Harbour Commission

PERSONNEL

The 1920 personnel of the Harbour Commission is exactly the same as last year's, namely: President, W. G. Ross; Commissioners, Farquhar Robertson, A. E. Labelle; Officials: Secretary-treasurer, M. P. Fennell, jr.; Cashier, Thomas F. Trihey; Chief Engineer, F. W. Cowie, M.I.C.E., Am.Soc.C.E.; Consulting Engineer, Sir John Kennedy; Assistant Chief Engineer, T. W. Harvie; General Superintendent of Grain Elevators, M. Peterson; Mechanical Superintendent, George Gendron; Harbour Master, Captain T. Bourassa; Deputy Harbour Master, Captain J. P. Symons; Comptroller, George E. Smart; Paymaster and Wharfinger, R. A. Eakin; Superintendent of Railway Terminals, J. Vaughan; Assistant Superintendent of Railway Terminals, R. L. Mercier; Purchasing Agent, L. H. A. Archambault; Supervisor Customs Wharfages, P. E. Morant; Chief of Police, Lieut.-Colonel E. A. Williams.

PORT DEVELOPMENT AIMS

In the development of the port of Montreal special attention has been devoted to:—

1. Concentration of self-contained comprehensive units.
2. Capacity use of facilities.
3. Close connection between all railways and ships.
4. Prompt release of cars.
5. Port charges at a minimum.
6. Location with reference to centre of city and business.

The Montreal Harbour Commission since its inception has been singularly fortunate in its personnel.

At its head have been capable, successful, and public-spirited business men, with no private interests to serve, and in the course of sixty-five years there have been only three engineers-in-chief and four secretary-treasurers. To the disinterested efforts of the board and the efficient services of the official staff throughout this period, the present proud position of Montreal as the world's sixth greatest port is largely due.

ACCOMMODATION

At a total cost of $31,000,000, Montreal harbour has at present accommodation as follows:—

One hundred steamship berths from 350 to 750 feet in length, with a depth of water of 20 to 35 feet.

Thirty-five of these steamship berths are at modern concrete wharves, built in the past few years.

Two large modern fireproof elevators with conveyor system to eighteen steamship berths, at which nine vessels can be loaded with grain at one time.

Twenty-four permanent fireproof transit sheds.

Fifty-eight miles of harbour railway tracks.

Complete and valuable construction and repair plants.

About 200 acres of land situated in the most valuable position, industrially, in Montreal, all reclaimed.

The extent of the wharves and piers at the end of the season is as follows:—

For 30-ft. draft and over at O.L.W. .. .. or 5.0522 miles.	26,676 lin. ft.
For 25 to 27½ ft. .. .. or 2.5458 miles.	13,442 " "
Total deep draft .. .. or 7.5981 miles.	40,118 " "
Included in this, five berths are available having a depth of 35 feet at O.L.W.	
For 20-ft. draft and under .. .. or 0.5880 miles.	3,105 " "
Total wharfage, end of 1920 .. .. or 8.1861 miles.	43,223 " "

ENGINEERING DEPARTMENT

Public Warehouse and Cold Storage Plant

All the piling work for the new public warehouse and cold storage plant having been completed in 1919, construction work was begun in 1920, and carried out during the season. The whole structure up to the main roof was completed, mass concrete foundations for the larger machinery units being formed on the foundation slab and carried up to the level of the first floor.

The structural steel framing of the cupola was erected and partly rivetted.

All work, save the brick and terra cotta work, which it was thought could be done to better advantage by sub-contract, was carried out by the Commission under the direction of the Chief Engineer.

Contracts were let for several tanks required for equipment, and also for three 14-ton overhead travelling cranes.

It is hoped that the entire structure, both cold storage warehouse and power-house, will be completed and operated early in 1922.

High Level Railway Widening, Sections 27 to 30

Additional tracks were extended over Jail Ramp subway, terminating in a ladder track about 700 feet east of the subway. Additional tracks laid amounted to 1,500 lineal feet; this work included the extension of the concrete abutments of the Jail Ramp subway for about 31 feet, and the erection of two new steel bridges on the subway.

Victoria Pier Tracks

The rearrangement of the original track was proceeded with in connection with the completion of sheds Nos. 17, 18 and 19. The work resulted in a net reduction of 3,377 lineal feet of track. The surface drainage work was completed, embracing the laying of 220 lineal yards of tile pipe and the construction of seven cesspools.

New Wharves, etc.

For the extension of shore wharves on section 30 an additional length of crib-work substructure of 280 feet was put down, and the concrete superstructure of standard high level section was completed to height of 108 H.D., completing an additional low level berthage of 280 lineal feet capable of future elevation to standard high level.

A large section of wharf area was reclaimed.

In the fall work was done on Jacques Cartier pier.

On the east face the sheet piling of the substructure was completed, 2,256 lineal feet being driven, and on the west face 4,992 lineal feet were driven. The piles have shoes of steel and were driven to refusal, presumably on bed-rock.

The westmost large slipway in the shore wharf of Market basin was enlarged from 44 feet to 51 feet 6 inches to accommodate the larger river steamers of the Canada Steamship Lines, at whose expense the work was done.

Three additional slipways were built in the Sutherland pier, two at the end, and one on the east side, for the accommodation of the ferry steamers *Boucherville* and *Imperial*. This work was also done at the expense of the owners.

DREDGING AND FILLING

No. 8 derrick was the only unit of the dredging fleet to complete a full season's work, and was used almost exclusively for discharging ships' ballast. *No. 6* dredge went into commission on August 4, and for two months was engaged in maintenance work, and for the rest of the season on the Bickerdike pier extension.

The total dredging amounted to 114,300 cubic yards. Rock filling to 34,300 cubic yards.

SAW-MILL

The saw-mill worked from February 24 until July 3, when it was burned down. The total amount sawn was 371,075 feet b.m., the total amount planed 137,721 feet b.m. The total amount of timber and lumber delivered to the works during the season was 606,532 feet b.m.

HARBOUR RAILWAY TERMINALS

The interchange traffic on the harbour system showed an increase of 40 per cent over last year, averaging, for the entire year, more than 1,000 cars a month.

An unusual feature of the traffic operations during the season of navigation was a heavy movement of traffic during the months of July and August.

Although the car handling decreased from 182,328 cars in 1919 to 174,181 cars in 1920, the season of navigation shows an increase of 4,129 cars over the season of 1919.

The work of electrifying the terminals was carried out throughout the year, and the main lines as far as section 39 are now practically completed.

The new machine shop adjoining the engine-house was completed and taken over by this department in the early summer.

GRAIN ELEVATOR SYSTEM

Grain handled by elevator No. 1, capacity 4,000,000 bushels, amounted to 22,783,646 bushels as follows: by water, 10,424,037 bushels, from 168 steamers and 64 barges; by cars, 12,359,609 bushels, unloaded from 8,496 cars.

Grain handled by elevator No. 2, capacity 2,662,000 bushels, amounted to 21,651,458 bushels as follows: by water, 748,046 bushels, from 10 steamers and 7 barges; by cars, 20,903,046 bushels unloaded from 13,670 cars.

The total amount of grain handled during 1920 was 44,435,104 bushels; in 1919, 35,509,323 bushels.

POLICE DEPARTMENT

During the season of 1920 the harbour police force comprised 4 officers and 80 men, all uniformed and armed. They regulated the traffic on the wharves, kept order, and protected life and property within the harbour limits, and were at the disposal of the various shipping companies during the summer.

During the season of 1920, 66 ocean liners docked, bringing 21,539 passengers, and the same number sailed with 54,046 passengers, making a total of 75,585 ocean passengers handled during the season.

FINANCIAL STATEMENT

Receipts on revenue account were $2,434,773.72. The cost of operation, maintenance, sinking fund, etc., was $2,396,308.10, leaving a surplus to the credit of revenue account for the year of $38,465.62. The interest charges, which amounted to $965,920.10, show an increase of $54,599.61 on new loans due to the carrying out of the works of improvement.

The disbursements on capital account in 1920 amounted to $1,755,266.27.

The debenture debt of the corporation on December 31, 1920, was $28,967,000, of which $28,230,000 is due to the Government and $737,000 to the public.

SHIPPING

During 1920, 663 ocean ships arrived in port, tonnage 2,031,729, as against 786 ships in 1919, tonnage 2,179,280.

GENERAL

On an average 1,060 men were employed by the commission during the season of 1920.

During the season a number of distinguished visitors inspected the harbour, including members of the National Association of the Manufacturers of the United States, and members of the New Jersey Port Development Commission.

REPORT OF THE QUEBEC SALVAGE AND WRECKING CO., LTD.

1920

May 10—SS. *Empress of France*—Diver examined propeller.

May 13—British steamer *Atikokan*, grounded Madame reef. Refloated herself; ss. *Lord Strathcona* convoyed her to Quebec.

May 15 to July 26—C.G.M.M. steamer *Canadian Recruit* stranded off Tadoussac. Assisted with gear, our schooner, *G. T. D.* and ss. *Lord Strathcona* in refloating this steamer and brought her to Quebec.

May 25 and 26—C.G.M.M. steamer *Canadian Hunter*.—The ss. *Lord Strathcona* towed her from Quebec to Three Rivers.

June 7 and 8.—British steamer *Manchester Division* grounded off St. Charles river, Quebec. The ss. *Lord Strathcona* refloated her.

August 11 to August 22.—C.G.M.M. *Canadian Recruit*.—Rented pumps in order to enable contractor to take ship from Quebec to Montreal.

August 21 to 23.—British steamer *Manchester Corporation*. Made temporary repairs to bottom of ship after touching bottom in Louise basin, Quebec.

August 27 to 30.—C.G.M.M. steamer *J. A. McKee* ashore Prince's shoal. Rendered assistance, refloated her and brought her to Quebec.

September 13 and 14.—C.P.R. steamer *Metagama*. Aground Ile Bouchard; went to her assistance and together with other tugs refloated her.

September 25.—British steamer *Villavin*. This steamer touched bottom on her way from Montreal to Quebec; rendered diver's examination of entire bottom in the harbour of Quebec.

October 4.—C.P.O.S. steamer *Empress of France*. This steamer sustained damage while laying alongside breakwater, Quebec; our diver and wreckers rendered assistance in connection with temporary repairs.

October 5 to 8.—SS. *Lord Strathcona* towed dredge and four scows from Port Alfred, Saguenay to Quebec.

October 21 to 26.—British steamer *Chama*. This steamer went ashore on Bellechasse island and was in a very dangerous position; we salved her and brought her via Quebec to Montreal.

November 19 to December 6.—U.S. steamer *South American*. This steamer drifted ashore off Little Capes, off Gaspé coast; we refloated her and towed and convoyed her to Halifax.

The ss. *Lord Strathcona*, schooner *G.T.D.*, properly manned with all salvage gear, in good order, have been kept in commission during the season of navigation to proceed to any accidents or mishaps to ships at very short notice.

REPORT OF PACIFIC SALVAGE COMPANY, LIMITED

SALVAGE OPERATIONS FOR THE YEAR ENDING MARCH 31, 1921

April 1 to April 17, 1920.—*Prince John* struck at Dead Tree point, Queen Charlotte islands.

September 29 to December 27, 1920.—*Prince Rupert* ashore at Swanson bay, B.C. (submerged).

February 10 to February 13, 1921.—*Princess Beatrice* struck at Steep island, B.C.

RETURNS OF SHIPPING MASTERS FOR THE YEAR ENDING DECEMBER 31, 1920

NOTE.—The collector of customs acts as shipping master where no shipping master is appointed.

QUEBEC

Name of Port	Name of County	Name of Shipping Master	Seamen Shipped	Seamen discharged	Amount
Chandler	Gaspe				
Escoumains	Saguenay				
Gaspe	Gaspe				
Grand Pabos	Gaspe				
Montreal	Hochelaga	T. O. Grey	6,272	6,246	5,587 60
Magdalen Islands	Gaspe	C. F. Painchaud	Nil	Nil	Nil
Paspebiac	Bonaventure	E. W. LeGallais	13	7	8 60
Perce	Gaspe	Phil. LaBoutellier	Nil	Nil	Nil
Quebec	Quebec	T. Beland	844	301	497 20
Rimouski	Rimouski				
St. Johns	St. Johns				
Three Rivers	St. Maurice	W. D. Fisher	12	10	9 00
			7,141	6,564	6,102 40

NEW BRUNSWICK

Name of Port	Name of County	Name of Shipping Master	Seamen Shipped	Seamen discharged	Amount
Albert	Albert				
Alma	Albert				
Baie Verte	Westmorland				
Bathurst	Gloucester	C. J. Melanson	15	13	11 40
Chatham	Northumberland	R. J. Walls	39	43	32 40
Dalhousie	Restigouche				
Dorchester	Westmorland				
Fredericton	Westmorland				
Grand Harbour	Charlotte				
Harvey	Albert				
Hillsborough	Albert				
Lepreau	Charlotte	J. E. Haggerty	Nil.	Nil	Nil
Musquash	St. John				
New Brandon	Gloucester				
Newcastle	Northumberland				
Quaco	St. John				
Riverside	Albert				
Rockport	Westmorland				
Sackville	Westmorland				
St. Andrews	Charlotte				
St. George	Charlotte	Geo. A. Craig	15	14	11 70
St. John	St. John	W. H. Purdy	1,616	1,357	1,215 10
St. Martins	St. John	R. Allan Love	30	13	18 90
*St. Stephen	Charlotte	Andrew McWha	Nil	Nil	25 00
Shediac	Westmorland				
Shippigan	Gloucester				
			1,715	1,440	1,314 50

*54 Lighters and Sardine Boats.

NOVA SCOTIA

Name of Port	Name of County	Name of Shipping Master	Seamen Shipped	Seamen discharged	Amount
Advocate Harbour	Cumberland	E. C. Moore	3	1	1 80
Amherst	Cumberland				
Annapolis Royal	Annapolis				
Antigonish	Antigonish				
Apple River	Cumberland				
Arichat	Richmond	Chas. V. Herbin	3	1	1 80
Baddeck	Victoria				
Barrington	Shelburne				
Barton	Digby	F. W. Hutchinson	10	Nil	5 00
Bayfield	Antigonish				
Belliveau Cove	Digby	E. E. Therinult	8	4	5 20
Bear River	Digby				
Bridgewater	Lunenburg				
Canning	Kings	J. W. Miller	9	6	6 30
Canso	Guysborough	P. C. Cullen	38	11	22 30
Church Point	Digby				
Clark Harbour	Shelburne				
Clementsport	Annapolis	M. C. Jones	16	20	14 00
Cheverie	Hants	Nelson Brady	11	7	7 60
Descousse	Richmond				
Digby	Digby				
Glace Bay	Cape Breton				
Great Village	Colchester				
Guysborough	Guysborough				
Hawkesbury	Inverness				

RETURN OF SHIPPING MASTERS—*Continued*

Name of Port	Name of County	Name of Shipping Master	Seamen Shipped	Seamen discharged	Amount
Halifax	Halifax	H. S. Drake	4.296	3,321	3,144 30
Hastings	Inverness				
Hantsport	Hants	J. W. Lawrence	8	7	6 10
Havre Bouche	Antigonish				
Isaac Harbour	Guysborough				
Jordan Bay	Shelburne	E. Lyle Martin	Nil	Nil	Nil
Lahave	Lunenburg	E. M. Reinhardt	161	198	139 90
Liscomb	Guysborough	Wm. Hemlow	13	8	8 90
Liverpool	Queens	W. A. Smith	32	11	19 30
Lockeport	Shelburne	J. R. Ruggles	1	Nil	0 50
Louisburg	Cape Breton	A. M. Townsend	214	221	173 30
Londonderry	Colchester				
**Lunenburg	Lunenburg	William Shupe	412	446	584 80
†Mahone Bay	Lunenburg	T. F. Mader	27	16	35 80
Mainadieu	Cape Breton	A. McDougall	Nil	Nil	Nil
Maitland	Hants				
Margaretsville	Annapolis				
Margaree	Inverness				
Merigomish	Pictou				
Meteghan	Digby	L. T. Melanson	5	11	5 80
New Campbellton	Victoria				
North East Harbour	Shelburne	G. P. Swaine	Nil	Nil	Nil
North Sydney	Cape Breton	M. J. Ross	571	490	432 50
Parrsboro	Cumberland	E. Woodworth	212	161	154 30
Pictou	Pictou				
Port Greville	Cumberland	F. R. Canning	69	59	52 20
Port Hawkesbury	Inverness				
Port Hastings	Inverness	Geo. L. McLean	9	2	5 10
Port Hood	Inverness				
Port Latour	Shelburne	Benj. R. Smith	Nil	Nil	Nil
Port Lorne	Inverness				
Port Medway	Queens				
Port Morien	Cape Breton				
Port Mulgrave	Guysborough				
Port Wade	Annapolis				
Port Williams	Kings				
Pubnico	Yarmouth	J. L. Belliveau	3	Nil	1 50
Pugwash	Cumberland				
River Hebert	Cumberland	J. F. Moffat	1	Nil	0 50
Riverport	Lunenburg	E. Wentzell	34	29	25 70
St. Anns	Victoria				
St. Peters	Richmond				
Salmon River	Digby				
Sheet Harbour	Halifax				
Shelburne	Shelburne	A. C. Bruce	32	21	22 30
Sherbrooke	Guysborough				
Spencers Island	Cumberland	Geo. D. Spicer	12	2	6 60
Sydney	Cape Breton	V. Mullins (Acting)	553	563	445 40
Thorne Cove	Annapolis				
Truro	Colchester				
Tatamagouche	Colchester	J. Ramsay	Nil	Nil	Nil
Wallace	Cumberland	A. D. Macfarlane	4	2	2 60
Walton	Hants				
West Arichat	Richmond				
Weymouth	Digby				
Windsor	Hants				
Wolfville	Kings				
Yarmouth	Yarmouth	S. Harding (Acting)	250	165	174 50
			7,017	5,783	5,505 90

**Shipped 60 fishing crews—2 beam trawlers.
†Seven fishing crews at $2.50—$17.50.

PRINCE EDWARD ISLAND

Alberton	Prince				
Charlottetown	Queens	F. Beers	58	30	38 00
Crapaud	Queens	Neil Waddell	3	Nil	0 90
Georgetown	Kings				
Malpeque	Prince	R. J. Crafer	Nil	Nil	Nil
Murray Harbour	Kings				
Montague	Kings				
Pinette	Queens				
Port Hill	Prince				
St. Peters	Kings				
Souris	Kings				
Summerside	Prince				
Tignish	Prince				
			61	30	38 90

RETURN OF SHIPPING MASTERS—*Concluded*

BRITISH COLUMBIA

Name of Port	Name of County	Name of Shipping Master	Seamen Shipped	Seamen discharged	Amount
Aboucet	Vancouver				
Clayoqout	Comox-Atlin				
Hesquiat	Comox-Atlin				
Kyuquot	Comox-Atlin	A. Ellis	Nil	Nil	Nil
Massett	Comox-Atlin				
New Westminster	New Westminster				
Prince Rupert	Atlin	E. McCoskrie	288	300	234 00
Tofino	Comox-Atlin				
Vancouver	New Westminster	J. b. Campbell	4,890	4,248	3,719 40
Victoria	Victoria	Geo. Kirkendale	1,457	1,354	1,134 70
			6,635	5,902	5,088 10

RECAPITULATION

—	Seamen Shipped	Seamen discharged	Amount
			$ cts.
Quebec	7,141	6,564	6,102 40
New Brunswick	1,715	1,440	1,314 50
Nova Scotia	7,017	5,783	5,505 90
Prince Edward Island	61	30	38 90
British Columbia	6,635	5,902	5,088 10
Total	22,569	19,719	18,049 80

EXPENDITURE AND REVENUE

The parliamentary appropriation for the fiscal year 1920-21 was $22,573,000, the expenditure $20,603,112.55, leaving an unexpended balance of $2,005,301.78, less overdraft of $35,414.33, $1,969,887.45. The net revenue was $396,617.22.

CORRESPONDENCE

The number of letters received during the fiscal year 1920-21 was 76,432, as against 74,995 in 1919, an increase of 1,437.

The number of letters sent out was 44,000, as against 42,500 in 1919-20, an increase of 1,500.

SEASON OF NAVIGATION

At the port of Montreal the channel was reported clear on April 18, four days later than in 1919. The Government ice-breaker *Lady Grey* arrived from Quebec on April 18, and the ferry boat *Longueuil* on April 22.

The first ocean-going vessel, the *Canadian Aviator,* reached the port of Montreal on April 24.

The last vessel to depart for sea from Montreal was the *Benguela,* on December 6; the last departure in 1919 was on December 12.

NEW LEGISLATION

During the parliamentary session of 1921 new legislation affecting the department was enacted as follows:—

Montreal Harbour Commissioners. Bill No. 77, assented to on May 3.

Canada Shipping Act (Public harbours), Bill No. 40, assented to on June 4.

Lake of the Woods and other waters, Bill No. 216, assented to on June 4.

STEAMBOAT INSPECTION

The report of the Chairman of the Board of Steamboat Inspection is published as a supplement to the annual report.

A. JOHNSTON,
Deputy Minister of Marine and Fisheries.